

DEC 12 1927

MOTOR AGE

A Chilton Class Journal Publication
Published Weekly December 8, 1927

MANY dealers with a single line of low priced cars have taken the Jordan line in addition—and have kept the customers who graduate from the low priced car each year.

JORDAN MOTOR CAR CO., Inc., CLEVELAND, OHIO

FOR ALL
AUTOMOBILES


\$15
a set
of 4

5
Year
FULL
Guarantee

Money
Back
Trial Offer

INDIAN MOTORCYCLE COMPANY

SPRINGFIELD, MASSACHUSETTS - U. S. A.



Indian

INERTIA

SHOCK ABSORBERS

Quickly Sold—Easily Stocked

The price of INDIANS is right—their performance is excellent—two models fit all cars—and they need no servicing after installation.

When you sell INDIAN Shock Absorbers, you find that you are selling a trouble-proof and satisfactory device. Purchasers enthuse over INDIAN performance — and they ACTUALLY DO recommend INDIANS to their friends.

Feature INDIANS as your Sales Leader. Line up all the “popular car” owners in your vicinity—It is being done right now by other accessory dealers—and profitably, too.

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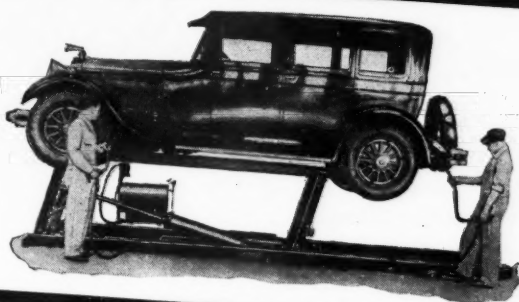
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If You're in the Lubrication Business— If You're Planning to Go Into It—

Send for this Helpful Business Book!

Lubrication Profits



THE **WEAVER** WAY

Once merely an incident of motor car service, lubrication today is a business so extensive and profitable as to justify investment in the finest of service equipment. Coincident, therefore, with production of the new Weaver Drive-Over Auto-Lift, which is so modern an adjunct to this business, we have prepared a book on *Lubrication Profits*. A copy of it is available to every dealer and service man interested in this work.

What the Book Contains

Lubrication Profits shows the business possibilities that exist for a lubricating business. It shows how lubrication service has been most successfully carried on. It tells of the actual profits made by the Weaver Laboratory Garage on 100 typical lubricating jobs.

There are hundreds of business-building ideas—illustrated suggestions for service tags and business forms—novel methods of obtaining new lubrication customers and check-up on old customers. *Lubrication Profits* includes advertising ideas completely worked out—folders—suggested letters—post cards and publicity stories.

It discusses equipment—methods in lubrication and payment of mechanics who do the work. A comprehensive business book in every respect, *Lubrication Profits* is brimful of what's new in modern underbody service.

WEAVER MANUFACTURING CO.

Springfield, Illinois, U. S. A.

WEAVER CANADIAN CO., LTD.

Chatham, Ontario

This is the new

WEAVER

DRIVE-OVER AUTO-LIFT

Designed to meet newer conditions in
the servicing of automobiles. It is—

Easy to drive on
Speedy—lifts car in 1 minute—lowers in ½ minute
Car raised to most convenient height for lubrication, washing and underbody work
Drive off straight ahead
Can be placed anywhere, outside or inside
No installation expense
Requires little space, 18½ ft. long, 5½ ft. wide
Lifts car by front axle and differential—wheels free

Range of lift, 7 to 44 inches
Can be stopped at any desired height
Car always level
Simple in operation
One horse power motor uses minimum current
Power plant can be located anywhere
Handles all types of cars
Recommended capacity, 6000 lbs.—ample overload
Absolutely safe

This is
the Coupon that
Brings the Book

WEAVER MFG. CO.
Springfield, Ill., U. S. A.

Without obligation,
mail me free, a copy of Weaver's business
book, *Lubrication Profits*.

Name

Address

City

State

ADV. PICARD-SOHN, INC., N. Y.

VELIE

THE NAME INSURES THE QUALITY

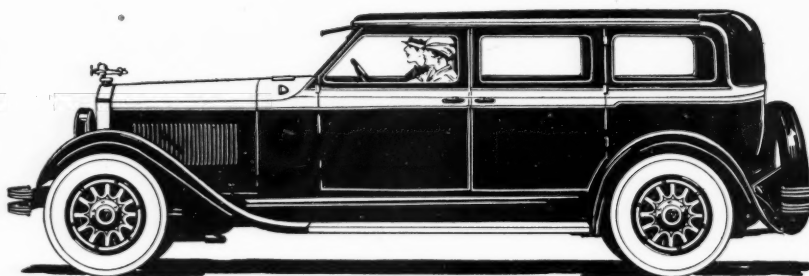


The silent, swift get-a-way, the ease and freedom of a tiger moving through the jungle places—these are qualities you feel in every Velie.



STRAIGHT

8



Straight 8 Sedan, \$2095, F. O. B. Moline

SPECIAL

6

"MONARCH" MOST COMPLETE LINE STANDARD in Velie History

1927 saw Velie representatives and dealers prospering through increased sales—despite the intense competition everywhere evident during that year. Now 1928 is at hand, the 20th Anniversary of Velie history under the same ownership and management. Velie consistent success over these 20 years has made inevitable the expansion of the Velie line to include the new Straight 8 Velie "Monarch" (Series 80), in addition to the Standard 6, Special 6, and the new Velie 40 Speed Truck.

Straight 8 "Monarch"

A brake horse-power of 96; effortless power and speed marking it the aristocrat of the road; worm drive axle, a feature usually found only in highest priced cars; a chassis and motor cushioned in rubber; special Ilco-Ryan headlights.

Velie offers three lines of fully equipped cars, ranging from the Standard Six 2-Door Sedan at \$1115, to the Velie Eight Sedan at \$2095. Velie 40 Speed Truck, chassis and cab, \$1595. All prices F. O. B. Moline.

Standard 6—Special 6

The Velie light 6 and the Velie big 6; both cars powered with the famous Velie-built Airplane Type Motor; quiet, vibrationless performance at all speeds; full force-feed lubrication; oilless-noiseless rubber shackles; typical Velie "Long-Life" and over-strength in every part.

Velie 40 Speed Truck

Airplane Type Motor with speed up to 50 and more miles per hour with one and one-half ton loads; Coupe Cab; specially designed pressed steel channel frame; 92-pound crankshaft; full force-feed lubrication; hydraulic four-wheel brakes.

VELIE MOTORS CORPORATION, Moline, Illinois

More Valuable Than Ever Before The Velie Cooperative Franchise

MOTOR AGE

Vol. LII

Reg. U. S. Pat. Off.
Established 1899

No. 23

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C. A. MUSSELMAN, President and General Manager
J. S. HILDRETH, Vice-Pres. and Director of Sales
W. I. RALPH, Vice-Pres. DAVID BEECROFT, Vice-Pres.
A. H. VAUX Secretary and Assistant Treas.
H. J. REDFIELD Treasurer
Cable Address Autoland, Philadelphia
Telephone Sherwood 1424

OFFICES

New York—U. P. C. Bldg., 239 W. 39th St., Phone Pennsylvania 0080
Chicago—5 South Wabash Ave., Phone Central 7045
Detroit—710 Stephenson Bldg., Phone Northway 2090
Cleveland—540 Guardian Bldg., Phone Main 6860
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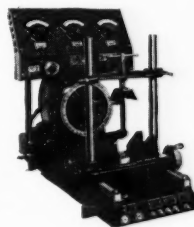
New Business for You



Here, Mr. Dealer, is an easy and *different* way of opening up new business for you.

The BURTON & ROGERS Service Manual is a 500-page book, printed on heavy Kraft paper with full wiring diagrams and Electrical-Service information on all cars back to January 1, 1923. Equipped with the B & R Service Manual and B & R Production Line of Test Equipment, you can turn out Electrical-Service work rapidly, economically and *profitably*.

The B & R Production Line Test Equipment is made to do Service work on a *production* basis, with resulting saving of time and labor.



The B & R Service Manual tells exactly what to do.

The price of the B & R Service Manual is \$12.50. Send for your copy today.

Here is the B & R Model TA Test Bench—this is one item of a full production line of B & R Electrical Test Equipment. Write Burton & Rogers Manufacturing Company, Boston, Mass., for full information.



THE PREST-O-LITE LINE

The Prest-O-Lite name continues to stand only for the highest quality of materials and methods in the production of storage batteries and radio socket power units. It continues to be of outstanding value to all who tie up to it.

The truth of these assertions is proved by the increased business done this fall by individual distributors, service stations and dealers, handling Prest-O-Lite batteries in every section of the United States.

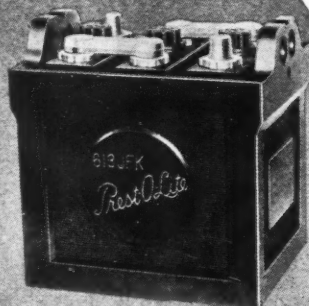
Distributors handling batteries, tires or any other automotive accessories, and traveling definite territories are invited to write for our profitable plan.

The line includes both Standard and Rubberib Automobile Storage Batteries; Light and Power Batteries for farms and estates; Radio "A" Storage Batteries. Also Automatic Radio Trikl-"A" Power Units, and Radio "B" Socket Powers which may either be used in combination or independent of each other.

Dealers and service stations desiring to increase sales will do well to write for details of our profit-making proposition.

Prest-O-Lite

STORAGE BATTERY SALES CORPORATION
INDIANAPOLIS, INDIANA OAKLAND, CALIFORNIA



SALESMEN!

Do you want to be a dealer?

**Here is your best
opportunity—**

*to sell a new six-cylinder
closed car which will list at* **\$795** F.O.B.
FACTORY

SALESMEN, experienced men who know the automobile *business* as well as how to sell cars, are offered a most favorable plan for starting their own business in small communities!

***Most favorable franchise
ever offered***

Here is a new kind of a contract offering a new kind of car—a six-cylinder sedan of proved performance and evident quality for only \$795, f.o.b. factory! Produced by one of the largest and oldest automobile manufacturers in the world. Almost no capital is required. You are not forced to maintain a demonstrator, handle trade-ins or operate a service station (though your profit is increased as these are added). You need sell *only* this one low-priced leader, though six and eight-

cylinder models from \$795 to \$2450 are available.

A car of sensational value

This new car at \$795 is destined to be the sensation of 1928—for beauty, for performance, for value. It offers a beautiful exterior, lacquered in the latest fashionable shades, an interior luxuriously upholstered, arm rests, ash receiver, gasoline gauge on the dash, coincidental lock to steering and ignition, steering wheel control of twin-beam headlights, rear vision mirror, automatic windshield cleaner and similar refinements—proved power to maintain high speed indefinitely—quality construction throughout. If you are alive to opportunity, send in the attached coupon at once. It will bring you complete information—will show you the road to independent success. Mail the coupon now!

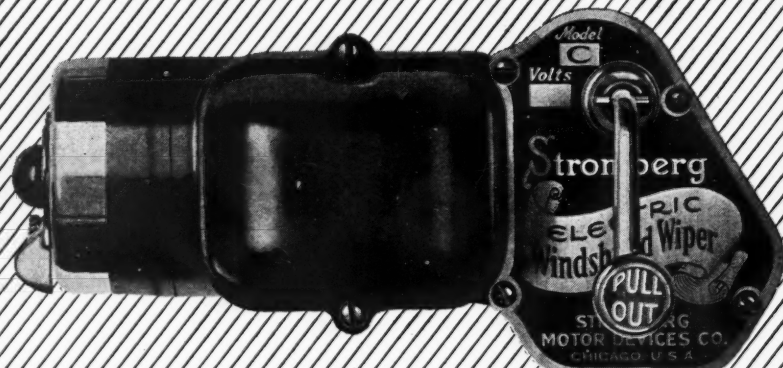
Room 2617, 310 S. Michigan Ave.,
Chicago, Ill.

Send further particulars on the franchise for the new \$795
six-cylinder car you are advertising.

Name.....

City.....State.....

Present Business (If selling cars now, state makes).....



**A Veritable
Windshield
"Snow
Plow"**

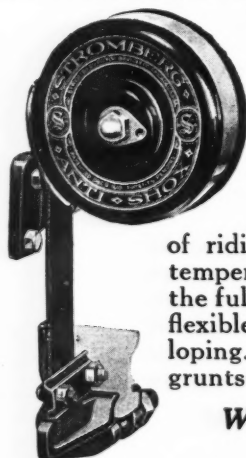
STROMBERG ELECTRIC WINDSHIELD WIPER

*With or With-
out Tandem
Attachment*

Just push the button on the improved Stromberg Electric Windshield Wiper and watch it plow through the heaviest snow fall—sleet, rain fog. See how the sturdy arm of this wonder wiper clears the glass and *keeps it clear*. Try one out on your own car. You'll say it's the best safety insurance on earth, because you'll find it the most efficient and satisfactory. It is therefore the best seller.

Here's Why!

Does not interfere with carburetion—2 speeds: slow or fast. Adjustable pressure on glass—Silent, powerful—Emergency hand crank if ever needed—Built like a Stromberg Carburetor or Stromberg Anti-Shox described below. Nothing like it — none so good.

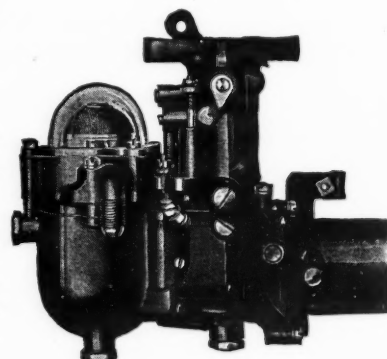


STROMBERG New ANTI-SHOX

Depend on them and recommend them to give the greatest degree of riding comfort in any temperature—to assure the full benefit of balloon flexible springs—no galloping. No squeaks or grunts—no trouble.

STROMBERG Wonder The VIS-A-GAS CARBURETOR

You can sell and stand back of this carburetor knowing positively that it has more features for perfect performance—for cold weather starting and warming up—for power, speed and economy than any carburetor made—a real sensation.



**WRITE today for complete information about Stromberg Auto
Necessities—our attractive discounts and dealer plan.**

STROMBERG MOTOR DEVICES CO., Dept. B-12, 58-68 E. 25th St., Chicago

Direct Factory Branches: 517 W. 57th Street, New York City
84-86 Hancock Ave. W., Detroit
1529 Laurel Avenue, Minneapolis
760 Commonwealth Avenue, Boston
1809 McGee Street, Kansas City
London, England, Chelsea, S. W. 10, Milman's Street and Cheyne Walk

THE SIGN OF NEW DEPARTURE SERVICE



The Sign of New Departure Service

YOU will see this sign displayed in the business sections of 800 American towns and cities. It is the sign of prompt and efficient ball bearing service.

These service stations have been strategically located so that even the most remote town is not farther than "over-night" from a stock of New Departure Ball Bearings.

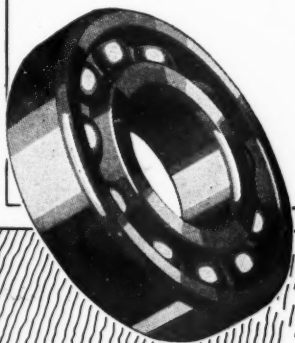
Ask us for the name of your nearest source of supply and for copies of the New Departure Service Station Manual, and the Service Catalog listing the position and number of ball bearings in all makes and models of passenger cars, trucks and agricultural machinery with which New Departures will interchange.

THE NEW DEPARTURE MANUFACTURING COMPANY
BRISTOL, CONNECTICUT

Detroit

San Francisco

Chicago



New Departure Quality Ball Bearings

810



Motors on Timkens

The most vital specification you can make on any order for electric motors is "Timken Bearings." That specifies not alone the lubricating economy of anti-friction bearings, but the supreme endurance made possible only by Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS*, and Timken-made electric steel.

In this exclusive Timken combination there is high speed capacity, extra load area, full thrust and shock capacity, greater rigidity, compactness, and simplicity.

Forget burnouts and shutdowns entirely! Get rid of dripping and fire hazards. Wipe out all the cost of bearing replacement, and almost all routine maintenance. Improve every phase of operation.

Specify Timken Tapered Roller Bearings in all the motors you buy.

THE TIMKEN ROLLER BEARING CO.
CANTON, OHIO

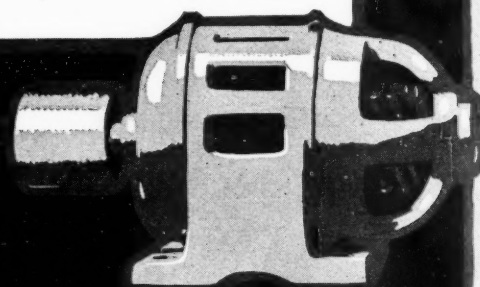
TIMKEN *Tapered
Roller*
BEARINGS



DOUBLE ROW
SELF-CONTAINED
TIMKEN BEARING



SINGLE ROW
TIMKEN
BEARING



MOTOR AGE

VOLUME LII

Philadelphia, Pa., Dec. 8, 1927

NUMBER 23

Few Fords Ready Before January 1

May Reach Peak Production
by Next Summer, Edsel's
Statement

SAME SALES PLAN

DETROIT, Dec. 7—It is very doubtful if any of the new Ford cars will be available for delivery to purchasers before the first of the year, according to Edsel Ford, president of the Ford Motor Co. It will still take months before the Ford factories are in readiness to turn out the Ford on anything like a near peak production schedule.

The company, Mr. Ford said, has shipped about 550 cars to date. These were used in the displays that opened to the public last Friday. Production of cars is still very limited but as fast as cars are produced they will be shipped to dealers to sample their showrooms.

"In January we expect to be manufacturing about 1000 cars a day. It is our plan to increase the output a thousand cars a day, each month, until peak production is reached," said Mr. Ford. "This means that February output will run about 2000 cars a day, March, 3000 a day, April, 4000 a day, and so on. It is my opinion that we will not attain peak production until next summer."

Five Models in Production

For the present time the five-passenger models which went on exhibition Friday, besides the trucks, are in production. Mr. Ford said the company is still held up on other models including the Fordor sedan by the lack of necessary dies. "Naturally we got under way on the Tudor sedan, which will probably be the first available to the public in any quantity. The Tudor, we believe will be the most popular in the line. In the past it was the biggest seller and no doubt it will continue so. It is the family car."

The Ford company, he admitted, is buying certain parts and materials for the car from outside sources. The shock absorbers come from Houdaille, the speedometer from Stewart Warner, carburetor from Zenith and the non-

Must Learn English to Drive New Fords

BOSTON, Dec. 3—One new angle regarding the Ford announcement in Massachusetts was brought out by Register of Motor Vehicles Frank A. Goodwin yesterday. He stated that all those drivers in the Bay State who now operate Ford cars under the special license given for planetary transmission machines will have to take a test before they can operate the new models. He estimates that thousands of owners of Fords come in this class.

Also many of these drivers will now have to learn English. Under the old law they got licenses, which were renewed each year, without having to undergo a test. Under the law requiring tests to drive, all applicants must be able to read and write English.

shatterable glass from the Triplex Co. Eventually the company plans to manufacture at least a part of its requirements of these various items such as the shock absorbers, glass, etc. Coupe bodies are being provided by the Briggs Manufacturing Co. This company, along with the Budd Manufacturing Co., is filling stamping orders.

Asked if there was any foundation to the story that the Ford company plans to sell the new cars on a basis of \$150 down and \$12 a month, Mr. Ford said he had no knowledge of its origin and knew nothing about it.

(Turn to page 17, please)

Studebaker Sales Co. of Chicago Appoints Three

CHICAGO, Dec. 6—Henry R. Levy, president of the Studebaker Sales Co. of Chicago, announced today that Leroy Baumgartl has been elected executive vice-president of the Studebaker Sales Co. of Chicago; R. H. Keeling, vice-president in charge of sales, and J. S. Deutsch, general sales manager.

Many Car Makers at National Shows

N.A.C.C. Announces Names
of New York and Chicago
Exhibitors

17 TRUCKS LISTED

NEW YORK, Dec. 5—The following automobile, taxicab and truck manufacturers will exhibit at the New York and Chicago national shows, according to information made public by the National Automobile Chamber of Commerce:

Cars

Auburn Automobile Co., Buick Motor Co., Cadillac Motor Car Co., Chandler-Cleveland Motors Corp., Chevrolet Motor Co., Chrysler Sales Corp., James Cunningham Son & Co., Dodge Brothers, Inc., duPont Motors, Inc., Durant Motors, Inc. (Star), Elcar Motor Co., Falcon Motors Corp., Flint Motor Co., H. H. Franklin Mfg. Co., Gardner Motor Car Co., Hudson Motor Car Co., Hupp Motor Car Corp., Jordan Motor Car Co., Inc., Kissel Motor Car Co., Lincoln Motor Co., Locomobile Co. of America, McFarlan Motor Corp., Marmion Motor Car Co., Moon Motor Car Co., Nash Motors Co., Oakland Motor Car Co., Olds Motor Works, Packard Motor Car Co., Paige-Detroit Motor Car Co., Peerless Motor Car Corp., Pierce-Arrow Motor Car Co., Reo Motor Car Co., F. B. Stearns Co., Studebaker Corp., Stutz Motor Car Co. of America, Inc., Velie Motors Corp., Willys-Overland, Inc.

Taxicabs

Yellow Truck & Coach Mfg. Co.

Trucks

American-La France Fire Engine Co., Inc., Chevrolet Motor Co., Corbitt Motor Truck Co., James Cunningham Son & Co., Durant Motors, Inc. (Star), Federal Motor Truck Co., General Motors Truck Co., Graham Brothers, Larabee-Deyo Motor Truck Co., LeBlond-Schacht Truck Co., Reo Motor Car Co., Roamer Motor Car Co., Sayers & Scovill Co., Selden Truck Corp., Stewart Motor Corp., Studebaker Corp., Stutz Motor Car Co. of America, Inc.

United Motors Holds Meeting

**GM Unit Convention Will Be
Attended by Salesmen
and Managers**

DETROIT, MICH., Dec. 1—United Motors Service, official sales and service organization in the replacement field for various equipment and accessory units of the General Motors Corp., will conduct a convention here starting tomorrow and continuing until Dec. 10. Salesmen and managers from the company's branches in the United States and Canada will be in attendance.

Several of the General Motors equipment and accessory units will share with United Motors Service the duties of host to the visitors. Convention headquarters will be at Webster Hall and the assembly hall will be in the General Motors building.

The group of salesmen will be present during the entire nine days of the convention while the branch managers will attend only during the last three days.

R. S. Lane, general manager of United Motors Service, will welcome the delegates at 11 a. m. on Dec. 2, after which F. A. Oberheu, sales manager, will give a brief explanation of the purpose of the convention—the outlining of company plans and policies for the coming year.

The salesmen will inspect the Detroit plant of the Harrison Radiator Corp. during the afternoon of the first day and in the evening will be guests of that organization for dinner and the theatre.

Rasmussen Assistant Hub Packard Manager

PROVIDENCE, R. I., Dec. 7—Harry H. Rasmussen, president of the Rhode Island Automobile Dealers Association, and for several years manager of the Packard Automobile Co. agency here, has been promoted to be assistant general manager of the Packard Motor Car Co. of Boston. He has been identified with motor car sales in Rhode Island since 1911.

Mr. Rasmussen is succeeded here in the management of the Packard agency by Roy A. Metler, for several years manager of the Packard at Boston. Mr. Metler is now installed here directing affairs.

U. S. Surveys Tire Wear

WASHINGTON, Dec. 5—How to get the most wear out of a tire, and the proper use and care of tires by motor-

*\$200,000 a Year
or Salesmanship
Made Easier*

Lesson Number 4: "The Hearty
Handshake Approach"



MEET Sam Simple, a pupil of this course. They call Sam "The Knight of the Bath-Brush" because he sells more Barbed Wire Bath Brushes than any salesman employed by his company, of which he is the sole salesman. He is shown here posed in his celebrated handshake approach. "Just a proper blending of humility, affability and gentlemanly dignity at the instant of contact does the trick," says Sam. "First impressions are last-ing."

ists, has been made the basis of a study by the U. S. Bureau of Standards, which has prepared a brochure on the subject, copies of which may be had by writing to the U. S. Superintendent of Documents, Government Printing Office, Washington. Cost of the brochure is 15 cents.

Walter Evans of Doran Co. Goes With Hudson

SPOKANE, WASH., Dec. 6—Walter Evans, vice-president and general manager of the John Doran Co., Hudson-Essex distributor, has been made manager of distributing territories for the Hudson Motor Car Co. of Detroit.

Mr. Evans is 32 years of age, the youngest man in the entire executive body of the company.

G.M.C. October Figures Increase

**Dealers' Sales to Users Gain
55.3 Per Cent, Sloan
Announces**

NEW YORK, Dec. 5—General Motors dealers sold 153,833 cars to users during October, as compared with 99,073 during the same month in 1926, and 86,281 in 1925, according to a statement made today by Alfred P. Sloan, Jr., president. This registers an increase over a year ago of 55.3 per cent. Sales by General Motors to its dealers totaled 128,459 as compared with 115,849 a year ago.

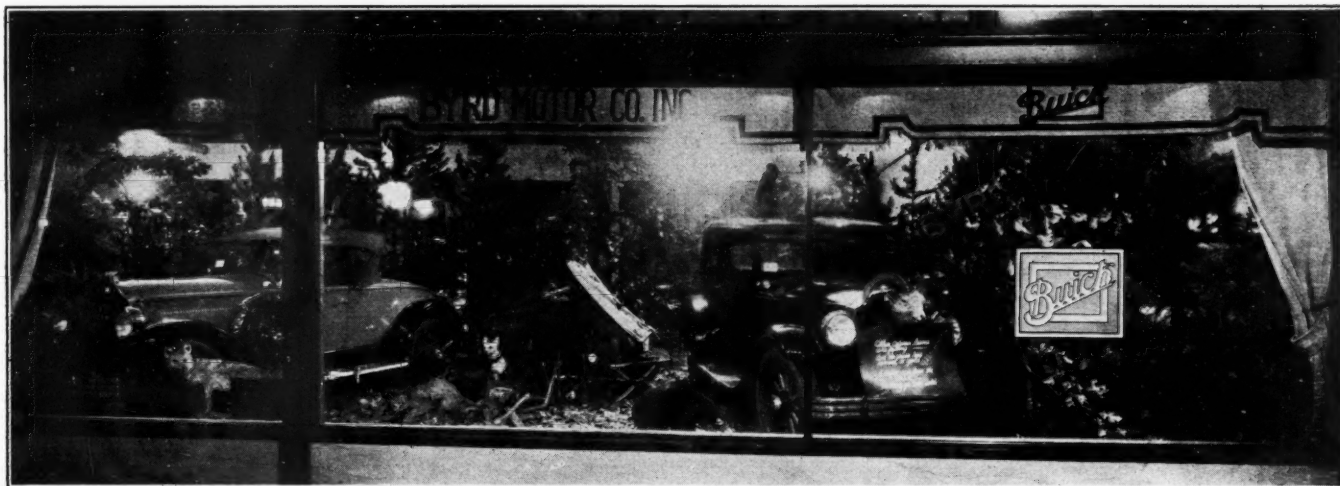
"To avoid misunderstanding, in dealing with the figures now being reported," said Mr. Sloan, "specific attention is called to the fact that the October sales are larger than would normally be expected and in excess of current sales trend, having been influenced by aggressive sales campaigns, tending to advance into October business that would otherwise have been consummated in November. Therefore, sales for November may be expected to be adversely influenced this year and may even be less than the corresponding month a year ago as similar campaigns were carried on last year during the month of November."

Comparative figures for the various months of the current year with the corresponding months of last year are as follows:

	Dealer Sales	
	1927	1926
Jan.	81,010	53,698
Feb.	102,025	64,971
Mar.	146,275	106,051
Apr.	180,106	136,643
May	171,364	141,651
June	159,701	117,176
July	134,749	101,576
Aug.	158,619	122,305
Sept.	132,596	118,224
Oct.	153,833	99,073
	1,420,278	1,061,368

Gas Tax Totals 101 Millions for First Half

WASHINGTON, Dec. 5—A total of \$101,250,841 was collected in gasoline taxes from the motorists of the United States, during the first six months of this year, according to figures just announced by the U. S. Bureau of Public Roads. This tax was collected on a total of 3,971,423,311 gallons of gasoline consumed in six months.



It's a Bird of a Window, Too

THIS very attractive window display is one used by Byrd Motor Co., Buick dealer at Chattanooga, Tennessee. It represents a "Sportsman's Dream." The many wild animals shown above in the picture are used effectively to carry out the idea. The display was used by the Buick dealer in connection with the Buick National Autumn Display Week and attracted widespread attention. Incidentally, this is the season of the year when old Dame Nature furnishes to those who will take it material for window display that cannot be excelled by anything that man can offer. And it doesn't cost anything; why not make use of it?

Smith Urged to Adopt Compulsory Insurance

NEW YORK, Dec. 5—In view of the widespread opposition to Governor Smith's proposed two-cent gasoline tax, he is seeking for some substitute measure to raise revenues for the state. Slashing of tentative budget items so as to make his action unnecessary is reported to be one of the steps considered by Governor Smith.

He is being urged by many to substitute a compulsory universal state automobile insurance law, whereby every automobile user would pay a stated sum for insurance.

Kansas City Sales Heads Form Trade Association

KANSAS CITY, Dec. 7—Sales managers of motor car dealers of Kansas City have formed an organization subsidiary to the Motor Car Dealers Association. George Wood, sales manager of Nash-Levy Motors, Nash distributor, is chairman of the new organization, and J. D. McInnes, Jr., sales manager for Noel V. Wood, Oakland-Pontiac distributor, the vice-chairman. Meetings are held once each month in connection with a dinner at a downtown hotel. Good speakers are obtained for each meeting. After the main talk there is a general discussion on sales topics.

Parker Succeeds Towne

NEW YORK, Dec. 6—W. J. Parker has recently been appointed commissioner of the National Battery Manufacturers Association and of the As-

bestos Brake Lining Association, succeeding O. B. Towne. Mr. Parker was formerly secretary of the Old Colony Club. He is a graduate of Harvard Law School.

Safety Contest Essay Prizes Are Distributed

NEW YORK, Dec. 1—The Highway Education Board has announced the winners of the annual traffic safety essay contest staged for students and teachers throughout the country. The prizes for this contest are given by the National Automobile Chamber of Commerce, and announcement of the winners was made today by them.

The first prize, which is a gold watch and a trip to Washington, was won by Miss Bethel Pugh, of Pueblo, Colo. The second and third prizes, which are gold watches, were awarded to Miss Mary K. Bogan of Junction City, Kan., and Miss Julie Smith of East Hartford, Conn., respectively. The prize to the teacher giving the best lesson in safety methods, consisting of \$500 and a trip to Washington, was won by Miss Elizabeth Laughton of Gaston School, South Boston, Mass.

Hooey-ism

A GOOD sales manager can make the boss understand that Tom Jones bought a Comet Six because the Comet trading allowance enabled the Comet dealer to outbid him \$125 on Jones' old car.

Studebaker Appoints Overlock Treasurer

SOUTH BEND, IND., Dec. 2—J. L. Overlock has been appointed treasurer of The Studebaker Corp. to succeed N. R. Feltes, resigned, according to an announcement just made by A. R. Erskine, president of The Studebaker Corp. of America. Mr. Overlock will also become treasurer of the Studebaker Corp. of Canada, Limited.

Mr. Overlock was formerly member of the firm of Overlock, Burke & Co., also on the staff of Price, Waterhouse & Co., and former auditor and credit manager of the Hydrox Co.

Immediately previous to his connection with The Studebaker Corp., he was comptroller and director of The Armour Grain Co.

Accurate Parts Mfg. Co. Has Clutch Plate Line

CLEVELAND, Dec. 7—The Accurate Parts Mfg. Co. has completed a full line of clutch plates which it is now offering for distribution. Catalogs have been prepared containing complete data and specifications on all plates and clutches used in all the various models and makes of cars, trucks and buses dating back to 1919.

N.B.M.A. to Meet Feb. 15

NEW YORK, Dec. 4—The National Battery Manufacturers Association will hold its annual convention in Chicago Feb. 15-16. Further details as to the place in which the convention is to be held and program of meetings have not yet been decided upon.

Showing of Ford May Ease Sales

Many Believe Announcement
of Car Aids Dealers
in Other Lines

NEW YORK, Dec. 7—Although the Ford announcement has relieved widespread uncertainty in the automobile industry concerning the price of the new car, it is too soon to report the approximate effect on the market. Many dealers believe that it will be easier to sell cars now that the new Ford is an actuality rather than a phantom.


The current low state of production and sales can be judged from the preliminary figures on November business. Output last month was 24 per cent under the same month of 1926 for the companies exclusive of Ford and for the entire industry marked a drop of about 50 per cent. It is likely, however, that the December results will compare more favorably with last year, when there was a sharp year-end decline.

Marketing and production plans can now be pursued more confidently, with all details of the Ford situation thoroughly known. The fact that Ford dealers for some months to come will be hampered by inability to give prompt deliveries is being given due consideration, as the Ford company has made no secret of the fact that peak production of the line is several months off.

Federal Aid Highways Show Material Gain

WASHINGTON, Dec. 8—A total of 8,306.9 miles of Federal-aid highways was added to the nation's highway system during the fiscal year ending June 30, at a cost of \$182,771,089 of which the Federal government paid \$81,330,357, or 44.5 per cent, according to annual report made this week by the U. S. Bureau of Public Roads to Congress.

Sales Head



John Tainsh

IN the first step of the most far-reaching sales expansion program in the history of the Marmon Motor Car Co., John Tainsh has been appointed sales manager by H. H. Brooks, general sales director of the company. Adoption of the regional office plan is a feature of the company's merchandising program.

Mr. Brooks, as Marmon general sales director, will control all branches of the sales organization and W. T. Young, Jr., will continue in the capacity of assistant general sales director.

Chrysler Shows New 72 Model

Town Sedan Includes Many
Additional Refinement
Touches

DETROIT, Dec. 7—Announcement is made by the Chrysler Sales Corp. of the addition to its Illustrious New "72" line of a town sedan, said by its manufacturers to be one of the smartest cars ever produced by their factories.

The town sedan incorporates a number of improvements in trim and finish that give it a distinction all its own.

The quality fittings of all cars in the "72" model are found in the new town sedan. Upholstered in a beautiful dark taupe all mohair plush and trimmed in the French pleat style, its inviting interior offers the attractiveness of saddlespring seat cushions and arm rests on each side and in the center of the rear seat. The latter rest swings up and fits flush into the back of the seat when not in use.

Other interior appointments include Butler finished hardware; domelight; smoking set in center of the front seat back; swinging robe rail; covered foot rest; windshield wiper; and moulded rubber draft plates around pedals and hand controls.

The new car is listed at \$1695, f.o.b. Detroit.

Northwest Cadillac Co. Headed by R. A. Parker

MINNEAPOLIS, Dec. 5—R. A. Parker has formed the Northwest Cadillac Corp., to distribute Cadillac and LaSalle cars in Minnesota, the Dakotas, four counties in Montana, two counties in Iowa, and part of Wisconsin. This replaces the Northwestern Cadillac Co.

Mr. Parker comes from Atlanta, Ga., where for six years he distributed the same line of cars.

"Yes, We Are Collegiate"

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THESE is a bit of odium attached to the word "collegiate," suggesting as it does trousers a yard wide at the cuff, garterless socks and patent-leather hair. But you can just lay that to the exaggerated humor of cartoonists and the lyricists of Tin Pan Alley, if they haven't all moved to Park Avenue. At least, that's what a Berkeley, Calif., dealer did when he had an idea that directly concerned collegiates. This dealer found an inexhaustible sales field in a university student body and in so doing discovered a way of assisting his distributor. Many articles have been written on how the distributor may help the dealer, but here's one that turns the table. You'll find it in next week's issue of MOTOR AGE, under the title of "Selling Through the Collegiates."

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THE series dealing with an inquiry into the cold facts of salesmanship is drawing to a close. A few more instalments and you will have a complete report of the experiences of automobile owners who, it would seem, make a mass attack on the industry's claim that intensified salesmanship is the rule and not the exception. In next week's instalment an automobile salesman will say a few words, and his few words may, and then again may not, surprise you.

Nash Men Meet for Fifth Time

Parts and Service Managers
Hold Convention at
Factory

KENOSHA, WIS., Dec. 3—No advertisement ever conceived is as effective as the word of mouth advertising of the satisfied owner.

This statement by C. W. Nash, sums up the message he delivered to 90 Nash service and parts managers, gathered at the factory in Kenosha for their fifth annual meeting. The meeting occupied the attention of factory officials for three days. Those in attendance were the men in charge of Nash service for the company's distributors from all parts of the country. They listened to talks by Mr. Nash, J. T. Wilson and M. H. Pettit, vice-president of the company; L. L. Virgil, factory service manager; George F. Gieselmann, assistant service manager, and others.

"It has been my observation," said Mr. Nash, "that taking the automobile industry as a whole too little attention is given the customer after he had once paid out good money for a motor car. A situation such as that is fundamentally wrong, for the owner, entirely satisfied with his car and entirely satisfied with the service rendered him by the dealer, will just naturally tell his friends and that, in my opinion is the surest avenue to increased business. As a matter of fact, I feel that the title Service Manager is somewhat misleading, for you really are as well an important branch of the sales department."

Among others who addressed the service men at the various gatherings held during the convention were Harold Seaman, president of the Seaman Body Corporation; D. M. Averill, manager of the Nash Racine Plant; Earl Gunn, engineer at the Nash Racine plant; James Auten, manager of the Nash Milwaukee plant; Mead Moore, engineer of the Nash Milwaukee plant; N. E. Wahlberg, chief engineer of the Nash Motors Co.; P. J. Moohan, works manager, Kenosha plant; R. J. Bentz, E. H. Mahoney, W. S. Nathan, P. G. Little, E. R. Lorenz, E. E. Miller, R. S. Craig, of Los Angeles, Frank Clark of Oklahoma City; R. E. Sproat, H. R. Neal, of Cleveland; W. G. Stroud, Indianapolis; L. G. Brown, Baltimore, and W. M. Boomershine.

Fisher Body Hiring

PONTIAC, Dec. 5—Production activities of the local plant of the Fisher Body Corp. are being resumed this week. In a few days the plant will have

Going Strong



J. E. Stone

JOE—everybody calls him that—is district sales manager of AC Spark Plug Co. with headquarters at San Francisco. He has just rounded out 12 years of service selling AC products. Starting with AC as a dealer salesman, he later was made assistant sales manager, and then district sales manager. His present district comprises the states of California, Oregon, Washington, Nevada, Arizona, Montana, Utah, Wyoming, Colorado, New Mexico and Western Canada.

3300 men at work, according to R. E. Brown, general manager. Addition of a new Duco application plant, and other improvements, will raise the daily output from 800 to 1200 bodies.

Chevrolet "Accounting School" Well Attended

COLUMBIA, S. C., Dec. 6—The "school of accounting" for Chevrolet dealers, held at the Jefferson Hotel recently, was attended by more than a dozen representatives of Chevrolet agencies over the state. F. G. Sease, zone accounting manager, presided.

Chevrolet Adds Men

FLINT, Dec. 6—According to Charles E. Wetherald, factory manager, men are being put back to work in various departments of the Chevrolet Motor Co. plants here, and the assembly line will start operating Dec. 12. The factory inventory, which took about two weeks to make, was recently finished and each day since that time has seen operations reopen in various departments.

Says 1928 Will Reward Workers

Moskovics Gives Reasons Why
Coming Year Should
be Prosperous

CHICAGO, Dec. 2—Although 1928 probably will not be a boom year, it will be a good substantial year for the fellow who will work, according to Frederick E. Moskovics, president of the Stutz Motor Car Co. of America, Inc., who was the principal speaker before the advertising council of the Chicago Association of Commerce.

"Export markets are just opening, labor conditions are sound, the farm situation is better than it has been for years, the 'presidential year fetish' has been proved unsound, and all in all there is nothing to indicate that 1928 will be a bad year," said Mr. Moskovics.

The setting forth of advertising as a cure-all for every industrial evil was denounced by Mr. Moskovics as a dangerous trend of modern times. He declared that as a result of the exaggerated claims made for volume advertising dealers have come to the conclusion that success is based on the amount of advertising they or their parent companies do.

"Salesmen feel they need not work," Mr. Moskovics said. "If the value of advertising is entirely proportional to mass, what chance has the small merchandiser?"

There is too much stress on the magic of advertising, the Stutz president believes. He declared that advertising can never be a substitute for old fashioned, down-right salesmanship. He declared that instead of following the example of Mohammed, the modern salesman sits back and waits for advertising to move the mountain to him by brute force.

He made an urgent plea for less volume and more quality. He urged that there be more dignity in the advertising business and less exaggeration. The intrinsic value of advertising, he said, is too potent to need exaggeration and the actual truth is far more interesting and valuable.

Sears Opens Another

KANSAS CITY, KAN., Dec. 7—Sears, Roebuck & Co., has opened a retail tire and auto accessories store at Fourth St. and Minnesota Ave., with William J. Hennessey as store manager. The store is intended both as a retail outlet for the Sears, Roebuck line of tires and accessories and as a demonstration and showroom.

Conn. Wars On One-Eyed Cars

Several Hundred Face Court
in Drive on Defective
Automobiles

HARTFORD, CONN., Dec. 2—An intensive campaign is under way by the state police to rid the highways of careless and indifferent drivers, the opening gun being fired by the police Sunday evening, when 102 motorists were marked for court, all of them on the charge of improper headlight equipment, which means that the offenders were driving with but one light. Others were brought in because their cars were otherwise defective. On Monday nearly 200 more drivers were arrested for the same offense.

Commissioner Robert T. Hurley pointed out that though owners have been warned to put their cars in shape, there has been a disregard of the notice. So the commissioner regarded it as high time to pounce on the indifferent ones. The official classes driving with defective headlights along with generally reckless driving.

During this campaign the state police on duty have been ordered to take a count of the cars with defective equipment.

The owner with a broken-down car is going to be out of luck in the Nutmeg State. Those who have been brought in have contributed enough in fines to put their cars in shape.

Chicago Reports Several Important Trade Changes

CHICAGO, Dec. 3—Several changes of importance in Chicago automobile dealer and distributor circles are announced this week.

Chrysler retail sales on the Michigan Ave. row will be handled in the future by "Dave" Smith, head of Smith, Sauer & Brown, former Marmon distributors. Burnstine Motor Sales, which formerly had a Michigan Ave. store in addition to its huge Chrysler home on Broadway, in the heart of the up-town district, will now confine its territory to up-town Chicago.

Distribution of the Marmon has been awarded to Chicago Motor Car Co., of which O. G. Heffinger, president of the Chicago Automobile Trade Association, is the head. This company formerly was Jordan distributor for Chicago.

Hub Oakland Opens Third

BOSTON, Dec. 6—The Oakland Motor Car Co. of New England has opened a branch in the metropolitan district, at 957-959 Commonwealth Ave. This

These Changing Times

By EDWARD S. JORDAN

A TOURIST with a road map and the ability to read the English language can now start from almost any point in the United States and go almost anywhere without losing a lot of time trying to find the way.

Automobile clubs and various governmental agencies should get a large part of the credit for this because of the constructive work they are doing in the intelligent marking of our highways. Thousands of additional miles of improved roads are being made available each year. They are not only laid more scientifically than ever before, but they are properly drained and are banked at the curves. Now we find clear, easily read signs that warn of cross-roads, curves, narrow bridges and steep hills as well as giving route numbers and general directions. In many states a painted strip divides the traffic on the turns and over the hill tops, while dangerous curves are marked with white fences for night driving. The combination of good roads and intelligent marking is largely responsible for the tremendous increase in touring. In some communities there is still room for improvement, but we have advanced tremendously in the last 10 years.

The next forward step is to remove speed restrictions in the open country, making arrests only for reckless or careless driving. This has already been done in certain sections of the country and in those places people can travel much more rapidly from city to city, with perfect safety. Most of the restrictions we now have, were put on several years ago when it was actually dangerous to drive over 35 miles an hour. But with the steady, balanced cars of today, with four-wheel brakes, it is just as safe to drive 50 miles an hour on our finely surfaced, well marked roads as it was to drive the old-fashioned cars at 30 or 35 under much more unfavorable road conditions.

More improvements are coming, of course, such as bridges over main cross-roads, traffic lights at less important intersections, wider roads with several traffic lanes and illuminated signs for night driving.

is the third to be opened recently, the other two being at Cambridge and Newton. The new Boston branch is in addition to the regular salesrooms of the company on Beacon St.

Horns for Ford

JACKSON, Dec. 7—The Sparks Withington Co. has a contract to provide the horn equipment for the new Ford cars, it was revealed today. Production on the contract has already started and indications are that the production will reach 125,000 a month within a short time. The company has already delivered 2500 horns.

The new Ford horn resembles the unit used on the Lincoln car, William Sparks, president and general manager declared. The horn will be placed on the outside of the car.

Kissel Adds Three

HARTFORD, WIS., Dec. 6—Three new distributors have been added to merchandise Kissel automobiles in New York City, St. Louis and San Francisco, it was announced today by W. L. Kissel of the Kissel Motor Car Co.

Dalley-Jennings-Graham New Paige N. Y. Name

NEW YORK, Dec. 8—The Paige-Detroit Co. of New York, distributor of Paige cars in the five boroughs of New York, parts of Connecticut, New Jersey and New York State, has changed its name to the Dalley-Jennings-Graham Corp. Edward M. Dalley continues as president, Lawrence C. Dalley as secretary and S. R. Bell as treasurer. C. H. Jennings, formerly Dodge dealer in New York, has joined the corporation and becomes its vice-president. Ray A. Graham and his two brothers, Joe and Robert, who control and operate the Paige-Detroit Motor Co. of Detroit, have become directors in the New York company.

Executives of the old company continue in their former capacities, as follows: Edward D. Fullerton, wholesale manager; Arthur J. Wise, assistant wholesale manager; Leland T. Hanford, general service manager; Ernest Seebeck, parts and purchasing manager; T. C. Molloy, new car department and traffic manager, and L. Ettinger, claims manager.

Christmas Sales Plan Gives Check

New Orleans Dealer Moves Used Cars by New Method

NEW ORLEANS, Dec. 8—The Linn-Harlan Motor Co., Inc., has adopted an unusual Christmas sales promotion scheme. A Christmas check is mailed to the prospect for a used car, payable to the amount of \$25 at the office of the Linn-Harlan Motor Co., Inc. This check is good on the purchase of any used car of \$100 value or more.

Accompanying each check is the following letter:

"Dear Sir:

"We have at the present time a wonderful selection of used cars on hand and feel certain that you will be able to find a car value that will interest you.

"We have, as you no doubt know, an enviable reputation for selling excellent merchandise for the price you pay. Our used cars are carefully selected and reconditioned before being offered to the public.

"As an added inducement we are offering you an opportunity to buy one of these cars and actually helping you to buy. This check we are sending you represents an actual value of \$25.00 (Twenty-Five Dollars) on the purchase of your car, and will be honored as a part of your down payment.

"This check is negotiable and if you are not yourself interested in buying a car at this time, you may at your option endorse it over to some friend of yours, who is in the market for a used car.

"Trusting that we may be able to serve you in the near future, we remain,

Yours very truly,

LINN-HARLAN MOTOR CO., Inc.

By J. N. Linn."

The result of this direct-mail method of approach has been very satisfactory, according to Mr. Linn.

MacManus in Toronto

DETROIT, Dec. 7—MacManus Incorporated, national advertising counsel, announces the opening of an office in Toronto, with Ray C. Blackwell in charge. It will care for the interests, in that section and Eastern Canada generally, of the organizations the company represents.

In addition to its main offices in Detroit, MacManus Incorporated now has branches in New York, Cleveland, San Francisco, Los Angeles and Toronto.



By Lewis C. Dibble

IF Henry Ford would permit his dealers to charge two bits for a squint at the new car every one of them could make up a comfortable portion of the losses they have incurred in recent months. We cite this merely as an example of the magnetic drawing power of the Ford name. Ford and his new automobile have been greatly amplified by millions of words of free and unsolicited publicity in recent months. It all has tended to whet public enthusiasm to a high pitch. Thousands upon thousands of people are so interested that they would pay good United States money to see it. Literally speaking it looks like the whole country is going Ford this week. So it seems certain that there will be an outpouring of the curious such as will set a record for crowds to view a new product. And when it is all over Henry Ford will be crowned the greatest impresario of all time, for his ability as a showman dwarfs many times the outstanding efforts of P. T. Barnum and Tex Rickard.

* * * *

INCIDENTALLY Henry Ford isn't the only smart showman in the business. J. E. Fields, vice-president of Chrysler, proved his ability along such lines with great success last week. In conjunction with the John H. Thompson Co., Chrysler distributors in Detroit, he had a large part in displaying the entire Chrysler line in the largest hall in the city. The exhibition was featured by the new 112-horsepower Chrysler 80. And it attracted such wide attention that thousands got up from the feasting places on Thanksgiving Day to see the exhibit.

* * * *

WE see where Andy Gump is a full-fledged member of the automotive industry. And this is no bunk. Michigan's Secretary of State received a request the other day from Andy for license No. 348 and he thought he was being made the butt of a practical joke. But investigation revealed that the applicant was none other than Mr. E. Andrew Gump, purchasing Agent of the Wilson Foundry & Machine Co., of Pontiac. And Andy got the number.

* * * *

NEWS that B. W. deGuichard has succeeded the late Albert Champion as president, and that H. H. Curtice has been elevated to the vice-presidency of the AC Spark Plug Co., struck a responsive chord in the automotive industry. Both these men have long been associated with the company and have had a large hand in moulding the policies which brought AC unbounding success. It seems only natural then, that their past efforts should be rewarded with the promotions which have come. Mr. deGuichard told me the day after his appointment that his idea is to carry on where Albert Champion left off. The AC organization will be held intact with the exception of promotions which will soon be revealed. A little later, some new products will be announced. His plan, it is plain to be seen, will appeal very well to his family of 3000 employes who revere him highly as a real man's man who has a keen appreciation for the efforts of all his associates.

* * * *

ASTRONOMERS have discovered a New Moon. It was first observed in the vicinity of St. Louis by a Scotch scientist by the name of Stewart McDonald. He has been watching it carefully for some time, and made known his find to the public last week. This New Moon, he believes, will rapidly grow brighter until its glow shall be cast over the entire country and into foreign fields. For convenience sake Mr. McDonald has designated his new find as the Moon 6-72.

* * * *

A. H. GOODMAN has well earned the splendid promotion which has just come to him from the Chevrolet Motor Co. Since he became city sales manager for Chevrolet in Detroit several years ago, Chevrolet retail sales in Wayne county have aggregated 30,793 units. That's a record to be proud of. So it is no wonder then that Mr. Goodman has been selected as general sales manager for zone 44, the new sales zone which Chevrolet has established with headquarters at Detroit.

Stearns Forms Sales Division

John N. Willys, H. J. Leonard
Leading Figures in
Expansion Plans

TOLEDO, Dec. 7—Announcement made today of the formation of the Stearns-Knight Sales Corp. of Cleveland represents one of the most progressive sales steps yet taken by the F. B. Stearns Company, builders of the Stearns-Knight line of six and eight cylinder motor cars.

The announcement of the new sales corporation, which will be an auxiliary to the parent company, was made by H. J. Leonard, president of the F. B. Stearns Co., following a conference with John N. Willys, president of Willys-Overland, Inc. Mr. Willys has been a conspicuous figure in the advancement of the Stearns company since its reorganization about two years ago.

The new corporation will take over the sales, servicing and advertising of the Stearns-Knight motor cars, it being anticipated that this move will prove an important factor during 1928 in establishing for the Cleveland manufacturer an even more distinctive and individual position in the quality car field than it holds today.

Bishop Heads Baltimore Group for Eighth Year

BALTIMORE, Dec. 7—A. H. Bishop has been reelected president of the Baltimore Automobile Trade Association, Inc., to serve his eighth year. The association also has reelected E. T. Backus vice-president. Walter F. Kneip has been elected a member of the board of directors to serve for four years. The other members of the board are Louis Fox, A. Stanley Zell and Thomas W. Wilson, Jr. John E. Raine, executive secretary, continues in that office and also as show manager, a position he has filled with great credit for several years.

The coming show is to be held Jan. 21 to 28.

Hudson Dividend

NEW YORK, Dec. 3—Hudson Motor Car Co. has declared a quarterly dividend of \$1.25, payable Jan. 3 to stockholders of record Dec. 12.

Nassimbene in East

DENVER, Dec. 2—Felix Nassimbene, export manager of the Gates

Sell by the Golden Rule

By Stephen Da Costa*

OF all the Tomes on salesmanship, or stuff that big guns preach, the line that sells me what I buy, is what I fain would teach. To let your prospect know he knows as much, if not lots more, than any salesman yet extant upon the salesroom floor; to let him talk and let him buy, is mighty good a rule, for when we try the pressure gun, ourselves we often fool. To think of Mr. Jones and wife, as one would think of self, oftentimes will put the order o'er, and add much store to pelf! If Jones likes dogs, why so do I—and I'm a fisher, too, and babies are a talking boon, for I myself have two!

In diverse ways I try to find, my prospect's fondest steed, and ride with him to Kingdom Come, if this be what I need. To truthful be, in such a way as not to irritate, conviction carries from the gun and questions dissipate. To stay alert and on the job—as simple as it seems, is hard to do from day to day, when orders are but dreams! I may be flint to expert's steel, and passive be my drool, but this about sums up my line: "SELL by the Golden Rule!"

*Salesman for H. H. Fowler, of Hollywood in California.

Rubber Co., spent the greater part of November on a business trip to the east. The purpose of his trip was to meet eastern and foreign buyers at the A.E.A. show and convention in Chicago and the N.S.P.A. convention at Cleveland.

Night Line Building Two Vessels for Car Haulage

NEW YORK, Dec. 7—Two Diesel-drive vessels for the transportation of automobiles and trucks between Albany and New York are to be built by the Hudson River Night Line. These vessels are to be 300 ft. long, 50 ft. wide and will have a capacity of about 300 cars. It is planned to expedite the handling of freight by having several trailers hauled on and off the new vessels by small tractors so that it will not be necessary for large shippers to send trucks all the way through. This service is expected to afford considerable relief from traffic congestion.

Changes Dividend Basis

NEW YORK, Dec. 6—E. I. duPont de Nemours & Co. has placed its common stock on a \$10 dividend basis and in addition has declared an extra dividend of \$4.25 a share. Quarterly dividend of \$2.50 was declared yesterday along with the extra dividend to be paid Dec. 15 to stockholders of record Dec. 1. The remaining \$3.75 of the extra dividend will be paid Jan. 4, 1928, to stockholders of record Dec. 1.

By placing the common stock on a \$10 annual basis, directors have not only passed on the regular General Motors quarterly payment, amounting to \$1.87½ on duPont shares but added an additional 62½ cents out of duPont's own earnings.

Thomas Says Cars Bring Prosperity

NEW YORK, Dec. 6—W. M. W. Thomas, director of sales, Morris Motors, Ltd., Crowley, England, who sailed for home recently, stated that he believes the motor industry in this country is largely responsible for our present prosperity and he is convinced that no one can live in America without a motor car, a radio set and a telephone.

The used car situation in America is more acute than in England, Mr. Thomas said, and he believes this is due to the fact that in England manufacturers do not exert so much pressure on the dealers to take cars as they do in this country and hence the load of used cars is not so great.

He expressed himself as astonished at the lack of individuality in American cars, which he says look and sound much alike. Light control of traffic and center lines on highways, and the spirit of cooperation existing among manufacturers in the industry appealed to Mr. Thomas as interesting contributions of America to the industry.

Railroad May Operate Planes

KANSAS CITY, MO., Dec. 6—A prediction that railroads eventually would operate both bus lines and airplane routes, was made here by H. L. Stuntz, Chicago, assistant to the receiver of the Chicago & Alton Railroad.

"I believe bus lines can be placed on an efficient and paying basis if operated by the railroads," Mr. Stuntz said. "And if the public is not satisfied with trains and buses then the railroads will operate airplane routes. Some railroad officials already use airplanes.

Few New Fords Before January 1

Peak of Production Not to be
Reached Until Next
Summer

(Continued from page 9)

The question of how Ford car sales will be financed was next brought up and he was asked if the Ford company will handle its own financing. His reply was that financing arrangements which existed for the Model T will still remain in force. Mr. Ford finally said that the Ford Motor Co. has been considering the advisability of handling its own financing for Ford dealers but such an idea, he declared, is still in a formulative state. He indicated that such an idea has never been decided upon and is still some distance away.

Asked what the attitude of the Ford company will be toward its dealer organization, Edsel Ford replied that contracts which were in force on Model T will remain on the new car. The company, he said, has no other arrangements in mind.

What will be the Ford company's policy on the sale of replacement parts to independent garages? we asked, and Mr. Ford replied that the practice formerly maintained will be continued. "We sell the parts to our dealers at 40 per cent discount and they, in turn, make them available to the independent service station at 25 per cent discount," said Mr. Ford.

With regard to dealer conditions, Mr. Ford said, that the company's dealer turnover has been less during the present year than it was last year or the year before that." The average turnover in dealers is about 10 per cent a year, but it has been less than that in 1927.

Will the Ford Motor Co. put on a drive to line up new dealers? he was asked, and Mr. Ford's reply was no. He said the company has 8500 dealers and also has on file a large number of applications for franchises. The company will not put on a campaign to enlarge the dealer field until occasion demands it, he said.

Charles B. Manville

NEW YORK, Dec. 2—Charles B. Manville, founder of the Johns-Manville Corp. and its allied companies, died in Pleasantville, N. Y., Saturday, Nov. 26, from a stroke of apoplexy suffered the previous Monday. He was 92 years old. Mr. Manville retired from active participation in the business in 1902.

Jest—a Bit Cynical

By Sherman Swift

SPEAKING as one who has at least enough analytical sense to refrain from wearing a glazed pot hat past a school house at recess time after a snow fall, I believe that the average dealer who has difficulty in getting results from his advertisements will find that the trouble sometimes lies not in advertising, but in over-advertising.

It was my privilege last winter to conduct a youngster of 13 on a trip around New York City, followed by a brief visit to Niagara Falls. This lad was disappointed in everything. "Is that all there is to New York's celebrated sky-line?" he asked as we stood on Brooklyn bridge and looked back at the city. For a moment I was nonplussed. Then I recalled my own experience. "It's supposed to be very striking," I returned, making use of a word that John Callaghan always told me to steer clear of. "It's nice," admitted the child, "but I thought from all I had read that it was really wonderful. And it isn't." It was the same when we visited Broadway at night. "Why, it's only light from Forty-second St. to Forty-eighth," he remarked. "From all the books and stories I have read, I thought it was light from one end to the other. If it wasn't for the advertising signs, it wouldn't be lighter anywhere than any other city." The visit to Niagara Falls proved equally disillusioning. There was a lot of water but not the vast flood that he had pictured. I hadn't the crust to try to sell him on the idea that all of these things were really awe-inspiring and that his sense of appreciation was at fault, because my own "reaction—whatever that may mean it always sounds tony—had been the same as his. The trouble, in this case, was occasioned by the reckless way in which a proportion of those on whom had fallen the task of telling the world about these wonders, had handled the job. Nothing that was not a superlative had any place in their writing. Lacking the skill to impress their readers with an interesting presentation of the facts, or not bothering with anything so simple as facts, they had sought to create the desired impression by exaggeration.

THE foregoing, just as it stands, without further clarification can be of use to the reader of this book who will use it. The advertiser who knows all that I have said to be the truth is the man whose advertisements are with reason believed by those who read them. That is why he gets "results," year in and year out. Another, employing many superlatives and generally misleading his public, succeeds for a time but sooner or later finds that the money he has spent in advertising, instead of cumulatively building prestige for him, has been wasted.

YOU can use the school house to debate all proper questions, but the horseless carriages, that you speak about are impossibilities, rank infidelity, and there is nothing in the word of God about them. If God had wanted his creatures to travel at frightful speeds he would have foretold it in his Holy prophets. Such a device as you refer to would be but a device of Satan, to lead immortal souls down to hell." That was the report of the school board of an Iowa hamlet when, in 1887, they were asked for the use of the school house for a debate on the following: "Resolved—That carriages will one day be propelled by steam."

THIS story may be a bit old to some of you but I have never heard it before. The other day, while down at Atlantic City—I said Atlantic City, but when you tell it you can change the locale to suit yourself—a loud-mouthed gentleman was bragging about the fact that he had had his automobile for 10 years and never had a wreck. A dapper little chap confided, in an aside, the belief that the speaker had had his wreck for 10 years and never had an automobile.

SCIENTISTS, mathematically inclined, have figured that if all the peoples of the earth were to stand side by side they would encircle the globe 15 times. If each had an automobile and these were placed end to end, they would encircle the globe 32½ times with enough left over to form a decorative curlicue. That is the market that we must strive for; to keep eternally at the job until we have sold a car, either new or second-hand, to every person living. After that will be soon enough to think about constructing highways to take care of them. Why not make that our objective for next year? They can't hang us for trying.

What's Coming in Motordom

SHOWS

Automotive Equipment Association, Coliseum, Chicago (1923)....Oct. 22-27
 *Baltimore, 5th Regiment Armory, Jan. 21-28
 *Boston, Mechanics Bldg.....March 10-17
 Brooklyn, Brooklyn Motor Vehicle Dealers Association, 23rd Regiment ArmoryJan. 21-28
 Buffalo, 174th Armory.....Jan. 14-21
 Camden, N. J., Convention Hall, Jan. 30-Feb. 4
 *Chattanooga, Tenn., Municipal AuditoriumFeb. 13-18
 *Chicago, National Automobile Chamber of Commerce, Coliseum, Jan. 28-Feb. 4
 *Cincinnati, Music Hall.....Jan. 15-21
 *Cleveland, Public Auditorium.....Jan. 21-28
 *Columbus, Auditorium ..Feb. 6-11
 Deadwood, S. D., Auditorium.....Feb. 20-25
 Denver, AuditoriumFeb. 27-March 3
 Des Moines, ColiseumFeb. 20-25
 *Detroit, Convention Hall.....Jan. 21-28
 Evansville, Ind., Coliseum.....Feb. 26-March 3
 *Harrisburg, Pa., Emerson Brantingham Bldg.Jan. 28-Feb. 4
 Hartford, Conn., State Armory.....Feb. 18-25
 Indianapolis, Auto Show Bldg.....Feb. 13-18
 *Kansas City, Mo., American Royal Bldg.Feb. 11-18
 Kinston, N. C.April 9-13
 Lansing, Mich.Feb. 6-11
 Los AngelesMarch 3-11
 *Louisville, Ky., Jefferson County ArmoryJan. 16-21
 *Milwaukee, AuditoriumJan. 14-21
 Minneapolis, Municipal Auditorium, Feb. 4-11
 *Montreal, Canada, Motordrome.....Jan. 21-28
 Muskegon, Mich., Armory.....Feb. 21-25
 Newark, ArmoryJan. 14-21
 *New York, National Automobile Chamber of Commerce, Grand Central PalaceJan. 7-14
 Omaha, Neb., Municipal Auditorium Feb. 20-25

Coming Feature Issues of Chilton Class Journal Publications

Jan. 1—National Shows Number—Automobile Trade Journal.

Jan. 5—National Shows Issue—Motor Age.

Feb. 18—Statistical Issue—Automotive Industries.

Ottawa, Can., New ColiseumFeb. 6-11
 *Philadelphia, Commercial Museum Jan. 14-21
 Pittsburgh, Pa., Motor Square Garden, Jan. 21-28
 Plainfield, N. J., Amusement Academy, Feb. 18-25
 Providence, R. I., Cranston Street ArmoryFeb. 11-18
 Rochester, N. Y., Edgerton Park, Jan. 23-28
 Salon, Automobile Salon, Inc., Hotel Drake, Chicago.....Jan. 28-Feb. 4
 Salon, Automobile Salon, Inc., Hotel Biltmore, Los Angeles.....Feb. 11-18
 Salon, Automobile Salon, Inc., Palace Hotel, San Francisco.....Feb. 25-March 3
 San Bernardino, Cal., National Orange Show Bldg.....Feb. 16-26
 *San Francisco, Civic Auditorium, Jan. 28-Feb. 4

*Scranton, Pa., Armory.....Jan. 23-28
 Sheboygan, Wis., Eagles Auditorium Feb. 6-12
 Sioux Falls, S. Dak., Coliseum.....March 28-31
 Springfield, Ill. State Arsenal.....March 7-10
 Springfield, Mass., Municipal AuditoriumFeb. 27-March 3
 Springfield, Ohio, Memorial Hall.....Jan. 16-21
 *St. Louis, City Market Bldg.....Feb. 6-11
 Syracuse, State Armory.....Feb. 6-11
 *Toledo, Civic Center Garage.....Feb. 6-11
 Trenton, N. J., State Armory.....Feb. 18-25
 Troy, N. Y., State ArmoryJan. 21-28
 *Washington, D. C., Auditorium, Jan. 28-Feb. 4
 Wichita, Kans., Municipal Forum, Feb. 6-11
 Wilmington, Del., duPont-Biltmore HotelJan. 30-Feb. 4
 Worcester, Mass., State Armory.....Feb. 9-11
 *Will have special shop equipment exhibit.

CONVENTIONS

Automotive Equipment Association, Grand Hotel, Mackinac Island, June 10-16
 Automotive Equipment Association, Coliseum, ChicagoOct. 22-27
 Michigan Automotive Trade Association, Annual Meeting, Hotel Statler, DetroitJan. 25
 National Automotive Parts Association, Hotel Statler, Detroit.....Jan. 25-27
 Texas State Tire Dealers Association, DallasDec. 14-15
 N. A. D. A.
 Chicago, Jan. 31-Feb. 2—Annual, Palmer House.
 Chicago, Feb. 1—Banquet, Palmer House.
 New York, Jan. 9—Eastern District, Hotel Commodore.
 S. A. E.
 Detroit, Jan. 24-27—Annual Meeting.
 New York, Jan. 12—Annual Dinner.

Chevrolet Takes Over Big Foundry

DETROIT, Dec. 6—The Chevrolet Motor Co. has taken over the huge gray iron foundry of the Saginaw Products Co., at Saginaw, it was made known today by W. S. Knudsen, president of Chevrolet. The acquisition adds plant facilities to Chevrolet's rapidly expanding organization valued at \$4,500,000.

The Saginaw foundry will be devoted exclusively to the pouring of Chevrolet castings. A new conveyor system and other labor-saving devices, recently installed, give the plant a melting capacity of 800 tons of metal daily and make it one of the most up-to-date foundries in the world.

Machines Do All Work

Among the features of the plant is the ingenuity with which machines have been made to perform the vast bulk of the foundry work. Specially designed mechanical conveyors shoulder practically all heavy foundry work. Core manufacture, assembly and baking, the charging and discharging of the immense cupolas, the pouring of molten metal and the cooling, cleaning and finishing of castings all rely upon machinery more than ever. Human effort has been reduced to the

minimum, resulting in increased capacity and a higher factor of safety.

Buildings are of brick and steel construction and allow for more than 300,000 square feet of floor space. The plant employs 3000 people when operating on a capacity basis. Arnold Lenz, one of the foremost foundry experts in the country, is in general charge.

Build 24 Amphibians

NEW YORK, Dec. 7—Twenty-four large amphibian airplanes similar in construction to the Dawn, built for Mrs. Frances E. Grayson for her attempted oceanic flight, are now under construction at the College Point, L. I., plant of the Sikorsky Manufacturing Corp. Each plane will cost about \$35,000.

Interest in this type of plane was stimulated when her plane achieved the feat of lifting a fuel load of 50 per cent more than was expected of it. Navy air officials are said to be exhibiting interest in this particular type of plane.

Hooey-ism

A GOOD parts man is never too busy to listen to an hour's "belly-aching" by a customer who has had to buy a new spark plug and only has thirty-thousand miles on the speedometer.

U. S. Exports to Gain, German Says

CLEVELAND, Dec. 6—American motor car manufacturers will export from 25 to 35 per cent more cars to Europe in 1928 than in 1927, according to Leon R. German, vice-president of the Peerless Motor Car Corp., following his return from a 60-day tour of the continent.

German reported economic conditions in Great Britain as good and getting better; the market for American manufacturers in France temporarily curtailed by the recently imposed high tariffs, and Germany holding the best economic situation of any continental country.

U. S. Cars Gain in Favor

He found American motor cars gaining further footholds in England despite the campaign of British car manufacturers to induce Englishmen to buy British cars. He reported the French automobile industry dominated by financing and a welcome for American products in Germany.

German was accompanied on his tour by Walter Zimmerman, export manager of the Peerless company, who has long been identified with overseas automotive markets.

Moon Adds Royal Roadster to Line

Addition to 6-72 Models
Priced at \$1,395; Now
Being Shipped

ST. LOUIS, Dec. 7—As an addition to its recently announced 6-72 line, Moon Motor Car Company has put into production a Royal roadster priced at \$1,395 factory on which shipments are now being made.

The 6-72 Royal roadster is now available in three striking color combinations: Chinese red and black, two-tone Rolls-Royce blue, and tropical green and black, these color schemes being set off by ivory door panels. The raised lance-head panel effect on hood and cowl is finished in a contrasting color to that of the hood. Moldings are in black with ivory striping.

A deep and narrow radiator with a German silver shell and a radiator cap of new design together with vertical type shutters lend much to the forward end view of the car.

The front and rumble compartments of the car are finished in pigskin pillow-type upholstery. The top is of khaki and is trimmed in leather to match upholstery. Top bows are in natural wood with nickel plated supports. Instrument board is in two-tone Burl walnut effect, ivory striped. Instruments are grouped in a single glass oval, indirectly lighted. Panel is of engine turned non-glare German silver.

Put "Shell" in Shellac

WASHINGTON, Dec. 7 — Three companies manufacturing a chemical product used in the automotive industry for cementing engine gaskets were cited by the Federal Service Commission for designating this material as "Shellac." The commission's complaint is that the commodity does not contain the necessary ingredients of pure shellac.

Each of the three firms have agreed to discontinue the use of the word shellac on labels or other advertising matter unless the product offered for sale is 100 per cent shellac gum cut in alcohol. If the material contains less than 100 per cent shellac gum it must be labeled "Shellac Compound." Under

Hooey-ism

THE perfect mechanic understands orders that say "fix up engine."

*Bert Has Always
Been a Good Guy*



A. C. Maucher

A. C. (Bert) Maucher has been elected vice-president of Petersen Motors, Inc., distributors of Peerless cars in the Philadelphia territory, according to an announcement by Fred J. Petersen, president.

Bert has been associated with the automobile industry for 25 years, both in the manufacturing and distributing ends, more than half of this time with the Peerless car.

In the early days he drove the Peerless in endurance runs, the Philadelphia Fairmount Park races and the Glidden tours.

the agreement with the commission, each of the companies agreed to put the word compound in type as large as the word shellac. The names of the three companies are not disclosed, which is the commission's policy in all cases settled by stipulation. The commodity complained of is largely sold to garages and dealers in accessories and supplies.

Stromberg Nets \$38,687

NEW YORK, Dec. 8—The Stromberg Motor Devices Co. reports net profit for the quarter ended Sept. 30 as of \$38,687 after expenses and federal taxes, equivalent to 48 cents a share earned on 80,000 shares of no par stock. This compares with \$62,579 or 78 cents a share, in the preceding quarter and \$164,767, or \$2.05 a share, in the third quarter of 1926. Quarterly dividend of 50 cents was declared payable Jan. 2 to stockholders of record Dec. 12.

Parts - Accessory Trade Decreases

October Less Than September
But Better Than Last
Year

NEW YORK, Dec. 7—The automobile parts and accessory business during October showed a recession from September, although the average for all divisions was ahead of October a year ago, according to the monthly report of the Motor & Accessory Manufacturers' Association.

The decline since September was due primarily to the hesitancy of the market to buy accessories and service equipment as long as Ford dealers, constituting practically one-fourth of the dealers of the United States, are temporarily out of the market.

The average index for all divisions for October was 129 as against 120 in October a year ago, and 146 in September of the current year. The index figure for original equipment in October is 124 as against 139 in September and 125 a year ago.

Replacement parts have shown a steady advance since July 1 of the current year and the index figure for October is 174. The figures for accessories and service equipment are 103 and 120, respectively, as opposed to 163 and 127 in September.

Canadian Goodyear Gains

NEW YORK, Dec. 6—Goodyear Tire & Rubber Co. of Canada, Ltd., reports net profit for the year ended Sept. 30, 1927, as \$2,171,390 after interest, depreciation and other charges. This compares with \$1,657,365 in the previous year. Profit and loss surplus was \$4,491,805 as against \$3,105,025 the year previous. Inventories were carried at \$3,483,171 as against \$4,065,141. No debts other than current bills were reported by the company.

Graham Coast Plant Ready

SAN FRANCISCO, Dec. 6—Production has been started in the new plant of the Graham Brothers Truck Co., at Stockton, and will be stepped up as rapidly as possible. Work on the new building was started Aug. 8 and construction was completed at the end of October.

Hooey-ism

A GOOD sales manager is able to educate his sales force against their wills.

"Most Diversified Display" Promised

Equipment, Parts and Accessory Divisions of '28 Shows to be Larger

NEW YORK, Dec. 5—The most diversified display of parts, accessories and shop equipment ever shown under one roof is promised by the Motor & Accessory Manufacturers' Association in the National Automobile Show to be held in Grand Central Palace, Jan. 7-14.

Fifty-six makers of shop equipment will show and demonstrate their products in a section closed to the general public every day until 5 p. m. A similar exhibit will be held in the Chicago show, Jan. 28 to Feb. 4, and will contain the products of 42 manufacturers. Parts and accessory makers exhibiting in New York will number 145 and at Chicago 100.

Power and other facilities for operation under actual working conditions will be furnished so that all kinds of equipment, from the smallest kind of machine tools to the largest hoists, cranes and lathes, can be demonstrated.

A special feature this year is the closing of this section of the show to the general public until 5 o'clock, which will enable trade visitors to make their way about the aisles without crowding and to obtain the thorough attention of the man demonstrating the equipment.

Trade units throughout the country will receive special credentials for the shop equipment sections. They will also be supplied with tickets good for free admissions to the shows, up to 1 p. m. on the trade days, Monday and Tuesday.

Taft Leaves Chevrolet to Open as Olds Dealer

KANSAS CITY, Dec. 7—I. O. Taft, for the past four years zone manager for the Chevrolet Motor Co., has formed a new Oldsmobile dealership at 3513-15 Broadway, known as the Taft Motor Co.

Another for Willys

CHARLOTTE, N. C., Dec. 6—Another strongly financed automobile distributing firm was added to the roster of this automotive trade center when the Dorris-Greene Motor Co. entered business as a distributor of Willys-Knight and Whippet, succeeding the Newton-Alexander Motor Co. C. W. Greene is president, J. B. Dorris, vice-president and general manager, and A. H. Greene, secretary-treasurer of the company.

CLOSE UP AND LOW DOWNS

By SAM U. L. SPARKS

YOU can put me down as one of the prominent men in the automobile industry which is looking for good business in 1928. As the matter of fact, I am always looking for it. And most usually I find it.

"Seek and ye shall find," is my motto.

* * * *

A guy ast me the other day, what is a tonsorial artist. I explained to him



that it was what they used to call what now-days most usually is referred to as a bobber.

* * * *

"Sam," says the Half-past Six salesman which takes my orders, "if you was in a city territory where everybody didn't know you like they know you and your Enterprise Garage here at Sparks Corners, how would you go about building up as prosperous a business as you have here?"

In the same way I done it here, I told him. If they didn't know me, I'd make 'em know me.

"You mean advertise?" he wanted to know.

Well, says I, a satisfied customer is the best advertisement.

"What makes a user satisfied?" he ast.

A good car, like the Half-past Six, says I.

"But," says he, "the best car in the world is likely to develop some trouble once in a while."

Yes, says I, and if the guy which sold it don't try to square his-self, the owner will never buy another one like it.

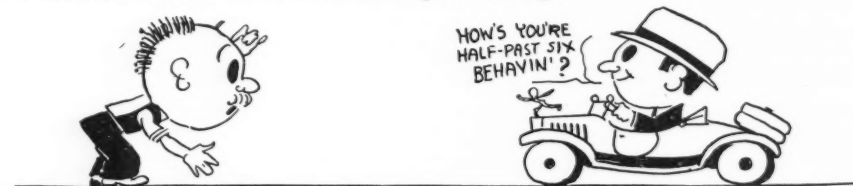
"But suppose the owner is just dissatisfied and don't tell you about it?"

It looks to me like it's good business for me to find out if my customers is satisfied, I told him.

When a guy invests almost two thousand iron men in a Half-past Six he has got a right to expect good service. And if the guy which sold it to him don't make it his business to see that all is Jake, he hadn't ought to be surprised if the next car he buys is some other make.

Most usually a coupla months after I sell a car I make it a point to drive around and say, "Well, Sanders, how is the car behaving?"

Being a Half-past Six, the answer most generally is, "Fine," but if he should say they's something which don't work quite right, I try to fix it on the spot or tell him to drive it in to the Enterprise Garage.

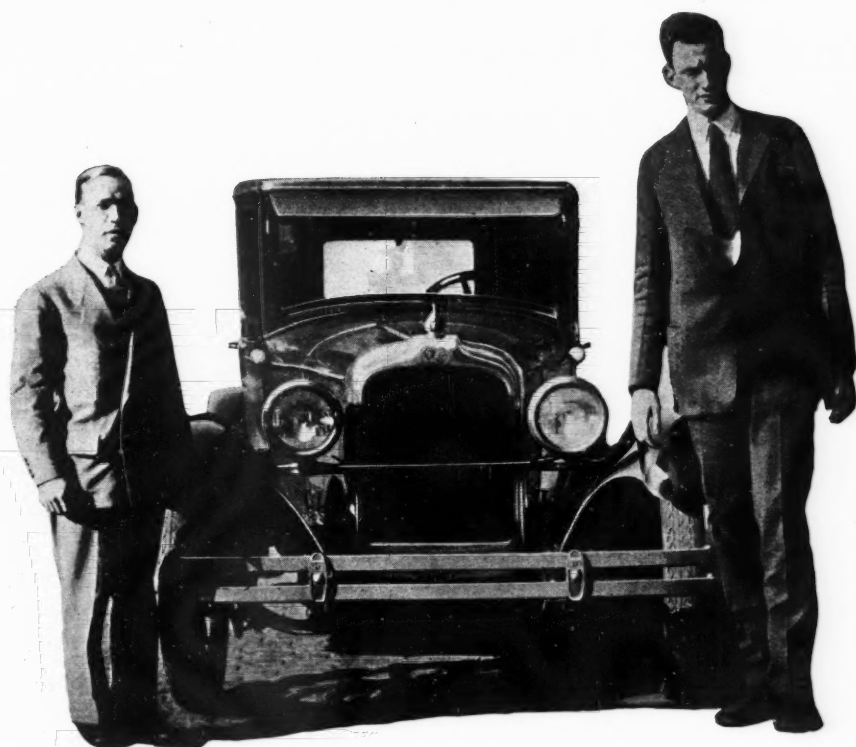


"And if you was operating in the city, you would do the same?" the factory man wanted to know.

I told him maybe I wouldn't do it all myself, personally, but you wouldn't see me sitting on plush carpet behind no mahogany desk unless I had a man going out regular and seeing that all of my customers was satisfied.

Maybe it would cost me a dollar or two to make the calls, and maybe I would give a few hours of free labor to fix a car now and then which was outa whack, but I would charge it up to advertising.

If I couldn't do no other advertising, I would anyhow have a coupla hundred owners going around and saying the Half-past Six is some car and Sam Sparks gives some service.



Extremes of Altitude

HHEIGHT apparently is not a factor in salesmanship. Louis Bouis, seven feet six inches, is nearly a yard taller than L. B. Mullen. They are sales aces for Englert-Rehtmeyer Co., Oakland-Pontiac dealer, Pittsburgh, and the long and short of it is that they sell cars.

Flour and Sugar Sells Used Cars

TEXARKANA, TEX., Dec. 7—The Cargile-Bane Motor Co. of this city, the County Chevrolet Co. of New Boston, Tex., and the Sterling Chevrolet Co. of Ashdown, Ark., staged a "flour and sugar" sale last week and moved many used cars.

The three companies used a good deal of newspaper display advertising space to herald their "sale." These advertisements announced that the companies would give a barrel of flour or a sack of sugar with each used car purchased. The cars offered ranged in price from \$78 for a Dodge of 1922 vintage to \$595 for a Chrysler of 1927. Advertisements carried numbers of each car with the prices in bold figures. Prospective customers were urged to ask for cars by numbers.

Harry W. Knights

BOSTON, Dec. 3—Harry W. Knights, a partner in the Foss-Hughes Co., distributor of Pierce-Arrow cars, died at his home at Littleton, Mass., Nov. 29. He was taken ill at Philadelphia three weeks ago while on a visit to the Foss-Hughes Co.

Mr. Knights was treasurer of Alonzo A. Knights & Son Corp., a big baker and confectionery supply firm, and was

also identified with other lines of business. He became identified with the automobile industry in its earlier days because of his bicycle affiliation as an outstanding amateur.

He was a founder of the Chronog Club, which timed the early Vanderbilt races, the "Climb to the Clouds" and other events. He was also a charter member of the old Bay State Auto Club, now the Boston A. C.

For many years he was a member of the A.A.A. contest board.

Billings & Spencer Co. Reorganization Planned

HARTFORD, CONN., Dec. 5—Plans are under way to reorganize the Billings & Spencer Co. of this city. The final step preliminary to the reorganization of the financial structure of the company has been taken by the protective committee of the preferred and common stockholders. This plan will proceed as soon as all the stock is deposited with the designated banks. All stock is to be deposited by Jan. 15.

Plympton With Lincoln

CLEVELAND, Dec. 8—The Lincoln Electric Co., announces the appointment of R. M. Plympton as salesman in charge of consumer motor business in Chicago. Mr. Plympton will work under the direction of R. D. Malm, Chicago district manager.

Dodge "Victory Six" Ready Soon

Private Showings to Dealers
Made; Announcement at
N. Y. Show

DETROIT, Dec. 2—Private showings to dealers are now being made by Dodge Brothers, Inc., of the Victory Six, a new six-cylinder model which will fit into the Dodge Brothers line between the present four and Senior Six. Public announcement of the line is expected to be made at the New York show.

In its introduction of the new line, Dodge Brothers executives are taking the models to dealers rather than bringing dealers into the factory. Dealer meetings are being staged in leading territories where the new cars are shown and factory policies for the coming year outlined. The plan also brings the heads of the manufacturing and sales organizations in direct contact with dealers and affords an opportunity of studying sectional conditions at first hand.

Included in the party are E. G. Wilmer, president; F. J. Haynes, chairman of the board; A. T. Waterfall, vice-president; A. K. Schoeff, assistant to the president; J. R. Lee, general sales manager; H. J. New, assistant sales manager; G. P. Anderson, director of sales engineering; F. C. Bestor, director of dealer operations; R. L. Biggers, director of sales promotion and development; Sedley Brown, director of advertising; A. H. Ferrandou, director of the motor coach division; E. N. Howe, director of the special equipment division; J. W. Hutchins, director of used car sales; J. H. Mack, director of national business sales; E. W. Shattuck, director of territory development, and H. M. Wiegand, director of service. George Harrison Phelps, Inc., is represented by G. H. Phelps, H. J. Koch and A. M. Corrigan.

Another Ford Plant

DETROIT, Dec. 5—The Ford Motor Co. has completed a modern assembly plant at Montevideo, Uruguay, with a capacity for 30 cars and trucks a day.

Seiberling to Broadcast

NEW YORK, Dec. 6—Seiberling Rubber Co. will inaugurate on Dec. 13 a program of weekly concerts over a hook-up including WEA and 26 other stations. These concerts, which will be put on by the Seiberling Singers, will be broadcast thereafter every Tuesday evening at 8 o'clock, Eastern Standard Time, for the following 52 weeks.

Gas, Oil and Hot Dogs—Drive In

ONE of our readers wants to know if N.S.P.A. is a motto meaning Never Sell Poor Accessories. We assured him that he was entirely right and that the motto applied equally well to parts and shop equipment.

Charles J. Spicer has joined the Chrysler Corporation. Such a seasoned individual should prove of value in his new connection.

One of our foreign readers wants to know the correct way to brake an automobile. The office stenog hearing the letter read remarked that the most effectual method she ever saw was to stall on the railroad crossing.

In this connection it seems advisable to mention that A.E.A. stands for Absolutely Excellent Accessories (nothing else will do).

"We are having trouble," writes one of our readers, "with a car that we can't locate." Take this matter up with the police department. We have to draw the line somewhere.

In describing a trip through the West a piece of publicity states: "After eating a few sandwiches the cars continued up the mountain."

"There is a car in our shop that is in terrible shape," writes another inquirer. This frank admission about the shop does not surprise us. Quite a number of shops are probably the same way.

"Sent on the scent of the 3 per cent"—but sadly enough the line refers to the tax on automobiles.

A deal that had a great deal to do with Diehl was that gentleman's resignation from the Ford company.

"Year of Plenty," is the way Mr. W. H. Alford, vice-president of Nash, looks on 1928. Of course that can mean plenty of used cars, plenty of bills, or plenty of profits. Hope it is the latter.

Moon Lowers Overhead. No, Dear Reader, this headline from MOTOR AGE is not an astronomical observation; it has to do with recent manufacturing economics effected by Stewart MacDonald.

This belt "tames" hot-headed motors, says a Farran-oid advertisement in MOTOR AGE. Gives them a "fanning," so to speak.

Conservation urged to meet tin famine. Will this be necessary now that the new Ford is such as it is?

Modern hobo got automobile rides across the continent by carrying an axle over his shoulder. If he would set on a wing and paddle with a propeller, he might get an aeroplane lift across the ocean.

Ya-Va-Pai is not part of an Hawaiian college yell, but the name of a manufacturer of onyx gear shift balls, in Dyersville, Iowa.

Chamberlain sees sales high. This is not the well-known trans-Atlantic aviator's altitudinous observation. Credit the general sales manager of Packard Motor Car Co., who says it with both feet on terra firma.

Here is a slight variation of the time-honored Christmas admonition, "Do your crossing stopping early and avoid the crush."

"You're late again," sez the boss.

"All great men are," sez the champion sleeper.

"How come?" sez the boss.

"Gee whiz," sez the c.s. didn't you ever hear of the late President Wilson, the late Colonel Roosevelt, and the rest of them?

Moon reduces overhead. On earth as it is in heaven.

John Cleary Says—

The day after Armistice Day, 1918, smart automobile salesmen started out to sell cars to all those prospects who had promised to buy "after the war."

And today smart automobile salesmen are starting out to sell cars to all those prospects who said they would buy "after they saw the new Ford."

Safety First

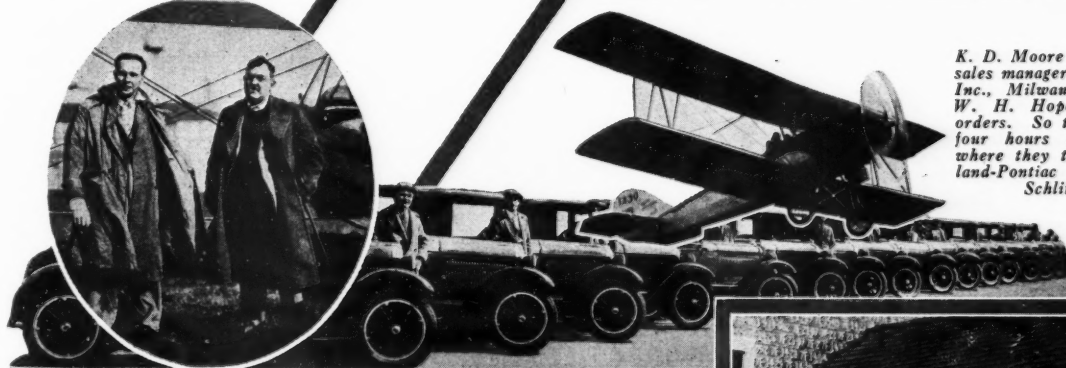


And no fooling. Here, first of all, we have the Safety Stutz at the circus in Evansville, Ind. If you insist upon believing in signs we wish to correct you that you clown sits not on the Stutz

This is the New Jersey entrance to what, on the face of toll returns on the opening day, may rightly be called the Holland Gin. Cars go in and money comes out. For those who like their turkey served without dressing, this is the Jersey gateway to the Holland Tunnel under the Hudson River



K. D. Moore (right in oval), general sales manager of Hokanson-Thompson, Inc., Milwaukee, and his assistant, W. H. Hope, needed cars to fill orders. So they took to the air and four hours later were in Pontiac, where they took charge of the Oakland-Pontiac driveaway back to city Schlitz made famous



It will be some job to get Albert H. Libby's number. Living on a farm near Forestville, N. Y., he recently purchased nine tons of automobile tags and shingled his barn and garage



Come-and-Get-

[THIS is the sixth article in a series comprising an inquiry into the cold facts of automobile salesmanship. The purpose is to inspire salesmen to go out and sell automobiles, instead of waiting for customers to come in and buy them. **]**

*It Can't Continue Forever, and These
rective Incentive*

By John

AS readers of MOTOR AGE know, I have been reporting for several weeks now the experiences of automobile owners with automobile salesmen. These experiences were related to me in a large number of letters, which I have been reproducing. I turned a batch of these letters over to Ed Reed, the artist, and asked him to picture the impression he got from them.

The illustration at the bottom of these two pages is the result.

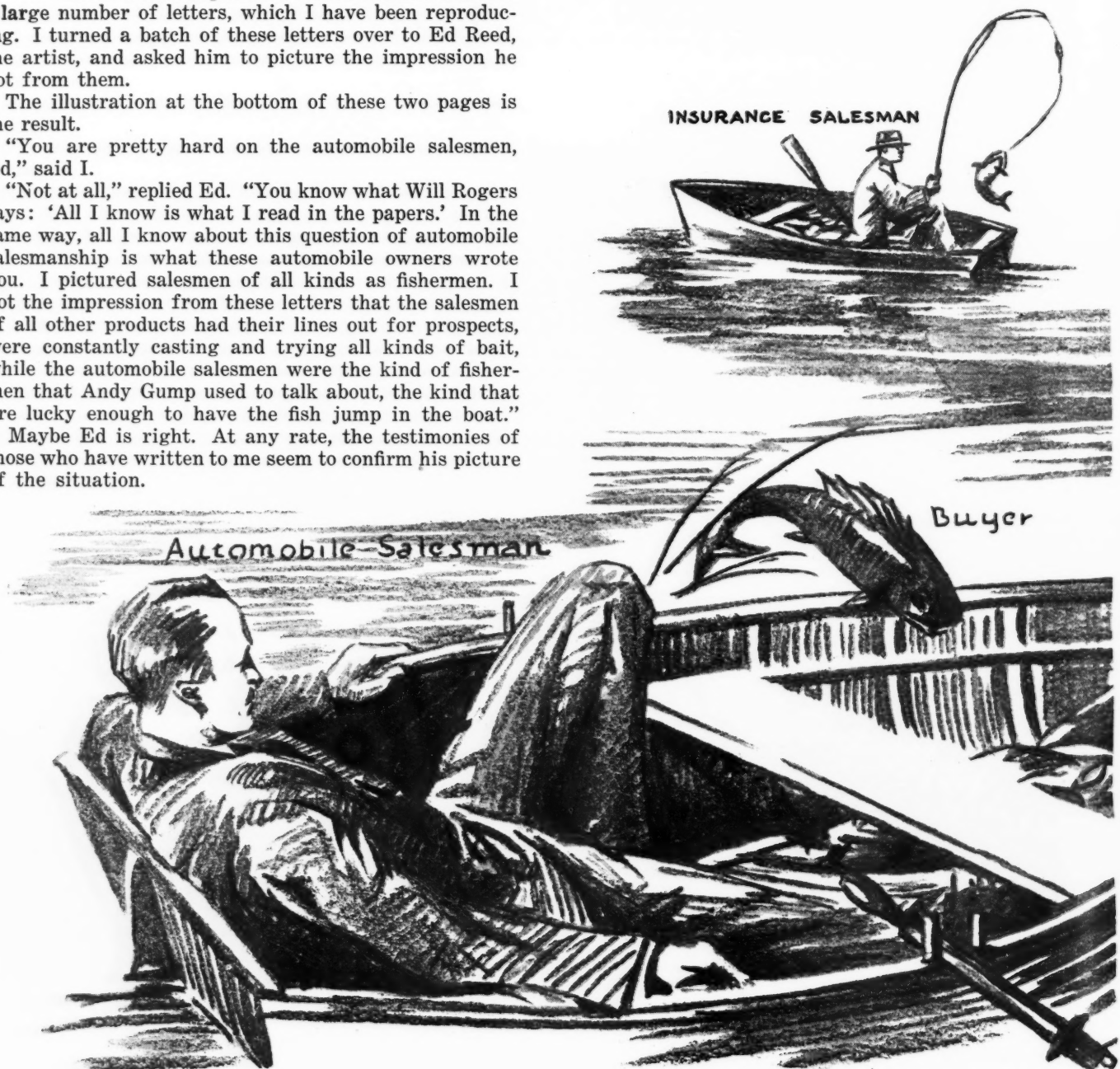
"You are pretty hard on the automobile salesmen, Ed," said I.

"Not at all," replied Ed. "You know what Will Rogers says: 'All I know is what I read in the papers.' In the same way, all I know about this question of automobile salesmanship is what these automobile owners wrote you. I pictured salesmen of all kinds as fishermen. I got the impression from these letters that the salesmen of all other products had their lines out for prospects, were constantly casting and trying all kinds of bait, while the automobile salesmen were the kind of fishermen that Andy Gump used to talk about, the kind that are lucky enough to have the fish jump in the boat."

Maybe Ed is right. At any rate, the testimonies of those who have written to me seem to confirm his picture of the situation.

How long will this continue?

Following is another instalment of these testimonies. In last week's article there were four letters which



It Salesmanship

*Owners' Letters Should Constitute a Cor-
to Salesmen*

Cleary

were not numbered. Numbering these brings the total so far reproduced up to 54. Read them and you may find some helpful pointers.



THESE letters—read 'em and leap—were received in reply to the following questions: How long have you owned an automobile? How many automobiles have you owned? How many times have you been asked to buy an automobile?

A Secretary-Treasurer

55 I have in the last 10 years bought six different automobiles. The first one bought was unquestionably due to the direct solicitation of the salesman who completed the sale, as at that time I had not even thought of buying a car. Since then I have been called on once or twice each year. In the past year, although not in the market, I have been solicited by personal calls, by three different salesmen, and have received direct-by-mail literature from the distributors of four different makes of cars.

The cars I have owned were two Fords, a National Sextet, Packard sedan, and now own a Reo coach and a Stutz seven-passenger sedan. I feel that the distributors in this market have not overlooked me, but on the other hand, also feel that the salesmen I have interviewed at the automobile shows did not have enough information about the cars they were selling.

A Salesman

56 I have owned quite a number of cars of various makes and at this time can recall only one actual call by a salesman at my home. This, by the way, happened to be a fellow of a similar name who was selling for Hupmobile about three years ago. Outside of this one time I have never been solicited
(Turn to next page)

COME - AND - GET - IT SALESMANSHIP

until after I had first made it known to the car dealer that I was in the market for a car. This covers a period dating back to May, 1912.

An Advertising Writer

57 In the last 10 years I have owned five different cars. During that time, one salesman called at the house and was apparently canvassing the neighborhood for prospects. At another time, two or three mailing pieces in a series were received, inviting me to try out a certain car, so that I could be accurately informed and tell my friends about it even if I was not in the immediate market. The salesman referred to was representing the Ford car, and the mailing pieces were from the Dodge dealer. More recently, after having a demonstration ride in a Reo, I was called twice on the phone, to see if I was still interested in the car.

A Salesman

58 I have owned automobiles for the last 14 years—two makes of cars—Ford and Chevrolet, and have never been approached by a salesman or received a letter or telephone call.

A Vice-President

59 I have owned automobiles for 13 years: two Locomobiles and a Ford. I have never received a personal call from an automobile salesman, not more than 10 letters and no phone calls.

A Salesman

60 I bought my first car in 1913 or approximately 15 years ago. In answer to the second question, the number of cars and makes: Willys-Knight, Winton, American, National, Stutz, Anderson, Hudson, Lincoln.

I would say that there have probably been seven or eight salesmen called, and I guess I have received 10 or 12 phone calls on the subject, and I have received letters at quite regular intervals, for some years, from three or four dealers and car manufacturers.

A Salesman

61 I have owned cars continuously since 1905: Rambler, Buick, Buick, Shoemaker, Cadillac, Petrel, Hudson, American Hupmobile Studebaker, Buick, Peerless and Ford, Peerless and Ford.

I am apparently on the mailing list of the Cadillac company for their very high grade sales literature. So far as I can remember I never have been approached or solicited by a motor car salesman. In every case I have done the buying on my own initiative.

A Sales Manager

62 I have been called on once by an automobile salesman in the last three years, during which time three cars were purchased. Have received many direct-mail circulars, broadsides, etc., no personal letters, no telephone calls.

Cars purchased were the result of observation of cars owned by friends and not

An Advertising Man

63 I have owned four cars in seven years, and have never been approached by a salesman. Except for occasional letters from dealers, of whom I have already bought, have only received one mailing piece, from Buick.

Felicitations

WE want to congratulate John Cleary for his article "They Chased Me for YOUR Dollar." We would greatly appreciate your kindness in mailing us 15 copies of this article if you have any left. What applies to the sale of new cars applies even stronger to the garagemen regarding the sale of service. We would like to place a copy of this article in each of our salesmen's hands.

—A Sales Manager.

through any advertising impressions whatever, or selling efforts on the part of the dealers from whom they were purchased,

An Advertising Executive

63 I have owned a car for a year and a half. It is a Nash Advance Six coach. For practically 10 years I have been a prospective buyer of a moderate-priced car.

During the entire time, and until I walked into the salesrooms of a Nash dealer, I was never personally solicited to buy a car.

A friend of mine told a Chrysler salesman at that time that I was in the market for a car, and this representative of the Chrysler distributor called on me at the office. He gave me a most business-like solicitation, several follow-up calls and a demonstration. He was such a good salesman that I almost bought a Chrysler. When I left that city he had been transferred to the Chrysler wholesale sales department. I think he was in charge of it.

Two years ago a friend of mine gave my name to a Jewett salesman at the Chicago show. (Perhaps it was three years ago, I'm not sure.) I never received a personal call from one of their salesmen, though they sent me a catalog and one sales letter.

I bought a Nash. No one sold it to me, and the Chrysler solicitation mentioned above is the only one I ever received.

Two years ago a Stutz salesman insisted on getting my name and address at the Chicago show, but the lead was never followed up.

Since March 1, 1926, I have been approached by a salesman once, about two months ago. This salesman was from the Nash dealer in the small town where I live. I have never been approached by any salesman in the city where I have my office. Further deponent saith not.

A Business Manager

64 I have owned automobiles for eight years: two Essex cars and two Packards. I have never been asked to buy an automobile. I have received a small amount of mail matter.

COME - AND - GET - IT SALESMANSHIP

A Salesman

69 I have owned cars for 14 or 15 years. During that time I have had a Locomobile, Thomas, Dodge and Buick. An occasional letter comes from a car builder. Buick keeps in touch with me through the mail, but I can honestly say I have not received a real solicitation from any manufacturer's distributor in the past ten years, except at the times I have gone into a showroom to look over new models.

An Editor

65 I owned a Buick car one year. I bought it by going into the Buick salesroom when they announced their 1926 models. A salesman was good enough to show me some attention and I bought from him. I had no car to trade and paid my one-third down on a car fully equipped as to accessories. The salesman acted as though the whole thing was too good to be true. I learned afterward from other salesmen and acquaintances that at the time a sale like mine had become such an unusual event that salesmen were known to lower their voices and look furtively behind them when they spoke of them.

I suppose the salesman was the luckiest man in the world for that particular minute. He had never seen or heard of me before, nor I him, but I heard of him once afterwards. About a month later I learned that he had gone over to selling another line. Since then I have never heard of him. I'll say this for him—while he was working on me he handled me reverentially, almost with a certain awe. So much so that even after he had my money and knew it was real he didn't try to find out if there were any more like me where I came from. Quite possibly he figured he had sold the very last man in the world who didn't have a car and had the money to buy. A thought like that probably would carry a certain amount of awe, but the peculiar part about it was that there were two other fellows in my office who were in practically the same position to buy that I had been but who had never walked into a salesroom.

Thinking the thing over afterwards I suppose there was no way that a salesman might have uncovered me unless some friends of mine had tipped him off. The days of canvassing had not arrived then and so far as I can ascertain they have not arrived yet. Furthermore, I suppose if there had been canvassing it would have been by salesmen handling small cars and I wasn't particularly interested in them. I had wanted to buy a car of Buick size for some time and was in position to but just didn't get to do it. For one thing I had never learned to drive and traffic observed from riding in other persons' cars had me just a little bit intimidated. How-

ever, I think that if a personable salesman had gotten after me at any time two years previous to my purchase he would have signed me up.

Possibly it would be of interest and of benefit to the boys on the selling line to know what was the final motive impelling me to buy. I wouldn't be any too certain about this, but I think it must have been that I became persuaded it was a good way to get the baby out in the open without walking myself. There's where I think the boys might have run me to earth. The little old vital statistics in my case would have disclosed a jubilating daddy who in very little time was going to get tired of pushing his mite when he could be riding along with him.

I haven't had a car in more than a year now. Couldn't afford it. Some day, however, I'm going to get off my feet again and I suppose when I buy there'll be another salesman who'll go around for a week knocking down everyone who says there isn't any Santa Claus.

An Advertising Agent

66 It is going to be too much of a strain to go back over my past life and enumerate all of my experiences with reference to automobile salesmanship. However, I will make a negative statement that will be very elucidating. Only once to my knowledge have I been honestly solicited to buy an automobile. I mean by that, selected as a prospect and approached by a salesman without having come in contact with him or his company first in some other way. Some of them have shown a little ambition when I asked them to appraise an old car, and once or twice after I had had my car serviced at the dealers a number of times, I have been approached by a salesman who had already looked over my car.

I am forced to admit that the quality of salesmanship has, in my opinion, been very poor and that never yet has one of these salesmen tried to find out what I needed in the way of an automobile and sold me one to fit my needs or shown any real comprehension of the virtues of the car he was selling. In other words, my impression of the salesmen with whom I have actually come in contact has been that their arguments were about as superficial as the manufacturers advertise, perhaps not superficial advertising, but entirely too general in its nature for sales efforts. I have never, with one exception, been pleased with the manner in which they treated the allowance on my old car. I have owned three cars in the past eight years.

A Salesman

67 I have owned an automobile over a period of three years.

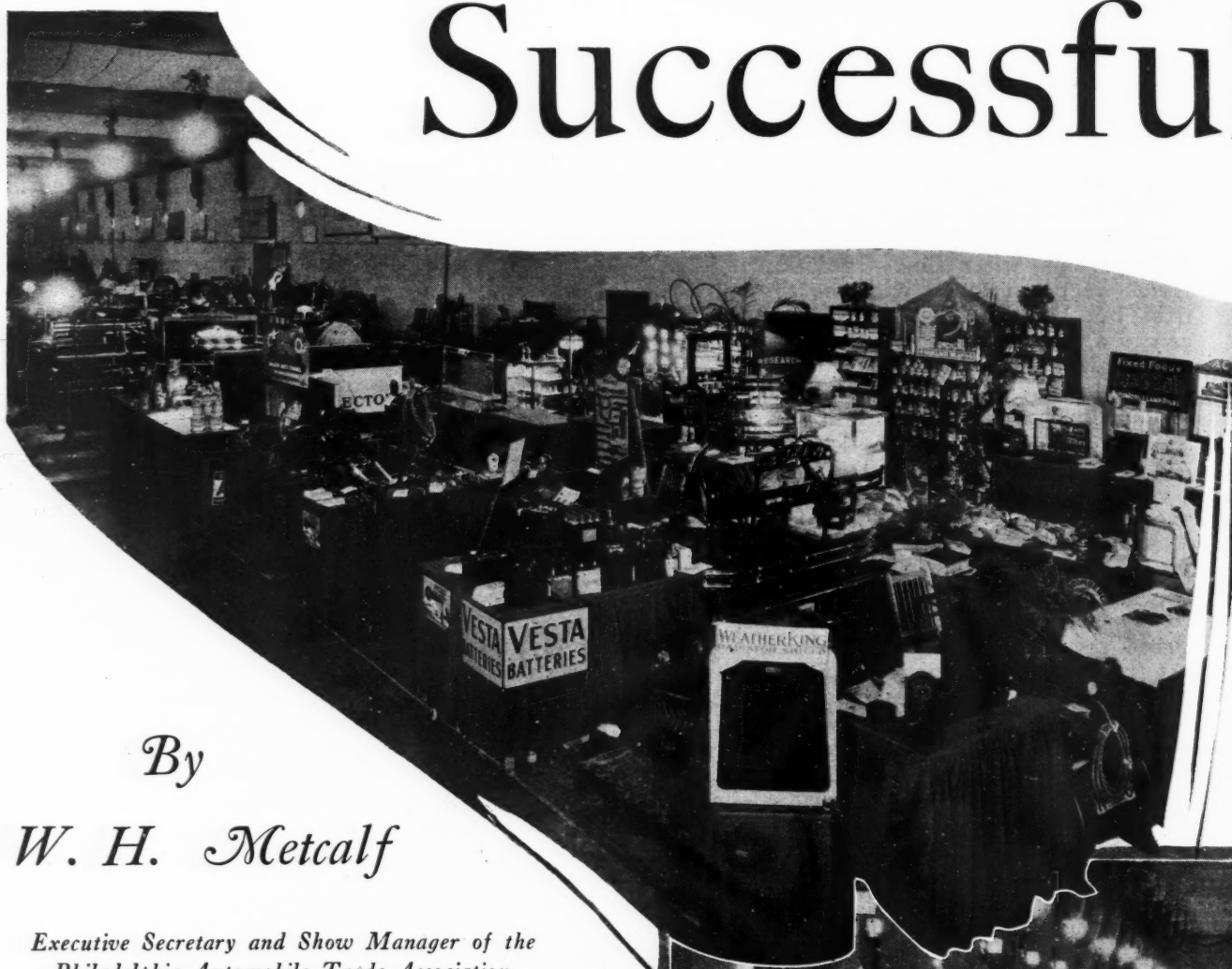
Three in number, which includes Maxwell touring, Ford coupe, and Hudson brougham. During this time I was approached once by a salesman at my home, and twice by telephone calls.

Having an Effect

YOUR article on salesmen, and the number of people they actually solicit, are causing quite a bit of comment, and I believe a revision in procedure in some cases.—Collis Drummond, the Overland Texarkana Co., Texarkana, Ark.-Tex.

There will be another installment of this series in next week's issue of MOTOR AGE. If you are an automobile salesman, and read it in the proper spirit, it will help you in your work.

Successful S



By
W. H. Metcalf

*Executive Secretary and Show Manager of the
Philadelphia Automobile Trade Association*

THERE are five things, to my mind, that are essential to make a successful automobile show.

First, the proper display of cars, accessories and shop equipment.

Second, real artistic decorations and lighting effects.

Third, a thorough advertising and publicity campaign.

Fourth, a large attendance or gate.

Fifth, an accurate record of everything pertaining to the show, in one book. A "Show Year Book," I call it.

I will take these five essentials in their relative value as I see them.

The proper display of cars. The Philadelphia Automobile Trade Association has for many years employed a well-known architect, Philip S. Tyre, to lay out the floor plan and to design the decorations and lighting effects. Mr. Tyre lays out the floor plan for the spaces for the cars, the aisles, accessory spaces, etc., and he plots out just how the cars are to be placed in each space. In a five-car space, only five cars or chassis may be shown in that space, and the same thing applies to larger spaces. If 10 cars are to be shown they are plotted out on the diagram so that each car is placed to give the proper display of that car. There is no crowding of cars.

Blueprints are made of the floor diagram and given to all car exhibitors before the drawing for space, which



drawing is based on priority of membership in the association. Each member exhibiting cars must conform to this rule of making his display of cars as shown on the diagram. This tends to give the show a real display of cars and not a jumbled mass.

Showmanship

*A Short Course in Automobile Exhibition Procedure as Followed by
an Association Man Whose Shows Have Proved, Beyond
a Doubt, the Value of His Practice*

No signs are permitted except those furnished by the show management. These signs are painted only with the name of the car to be exhibited, and are suspended over the spaces from the ceiling. The same thing applies to the accessory department of the show, which is on the same floor of the building but in the rear. The signs placed over accessory spaces bear only the firm name of the exhibitors.

A floor diagram of the accessory spaces is furnished to each accessory exhibitor before the drawing for space. Spaces located on the outer aisles must not contain exhibits exceeding 5 ft. in height, but displays in spaces back against the walls may extend up to 8 ft. No signs are permitted in the accessory department except the name sign furnished by the show committee,

with the exception of what might be printed on cartons or boxes displaying goods. We thus do away with a lot of signs and have a display of accessories instead.

The shop equipment exhibit is in a room adjoining the main building. A diagram of the floor space is made, the aisles laid out and blue prints are made the same as for the car and accessory exhibits.

There is no infringing of the car, accessory or shop equipment exhibitors on each others spaces. On Friday night before the opening of the show and before the exhibits are placed in the spaces, the spaces are accurately measured and broad white lines are painted on the floor, which, by the way, is of concrete. Each exhibitor must keep strictly within the lines of his space. This is how we secure a proper and dignified exhibit of cars, accessories and shop equipment.

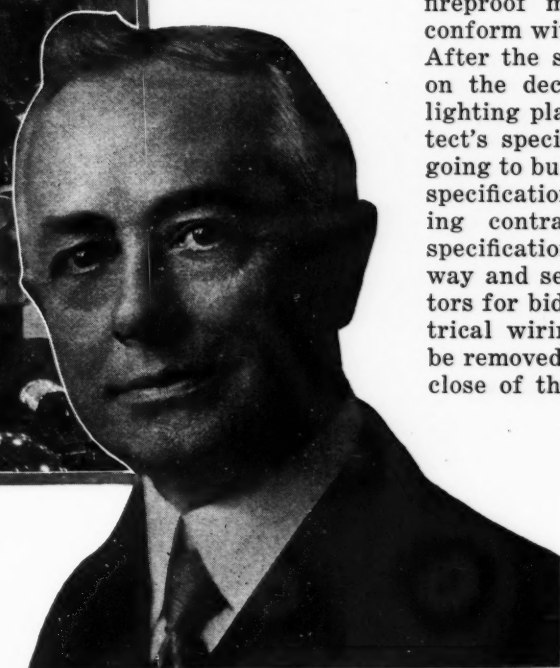
Second on the list are decorations. Mr. Tyre submits a sketch, or sketches, to our show committee, of his ideas of the decorations. The committee selects one of the sketches, which are usually done in color, and this becomes the decorative scheme for the show. The selection is made in November for the show in January.

You must bear in mind that the Commercial Museum, in which we hold our shows, is a big barn of a building, 300 ft. wide and 380 ft. deep, with exposed, unfinished pillars and walls, and an 85-ft. high ceiling. All pillars, walls and rafters must be concealed by the decorations and a false ceiling must be put in. We do this with

fireproof muslin, painted or dyed to conform with the color scheme selected. After the show committee has decided on the decorations, color scheme and lighting plan, Mr. Tyre prepares architect's specifications just as if he were going to build a new building, and these specifications are sent out to decorating contractors for bids. Lighting specifications are prepared in the same way and sent out to electrical contractors for bids. All decorations and electrical wiring are temporary and must be removed by the contractors after the close of the show. The building must be put in the same shape it was before occupied.

We rent Commercial Museum for the entire month of January of each year. This gives us time to decorate it before the show opens, and to clean up after.

(Turn to page 42, please)



Above and at upper left are views of the 1927 Philadelphia Automobile Show. At right is W. H. Metcalf, the author of this article

New Marmon 78

86 hp. Engine Has Bore and Stroke of $2\frac{15}{16}$ by 4. Lower Construction Made Possible by Use of Hypoid Gears. Six Body Styles Range in Price From \$1,895 to \$1,995

By M. Warren Baker

WITH new and original styles of body design, interiors emphasizing roomy comfort and an 86 hp. straight-eight engine of Marmon manufacture, the new Marmon 78 is announced by the Marmon Motor Car Co.

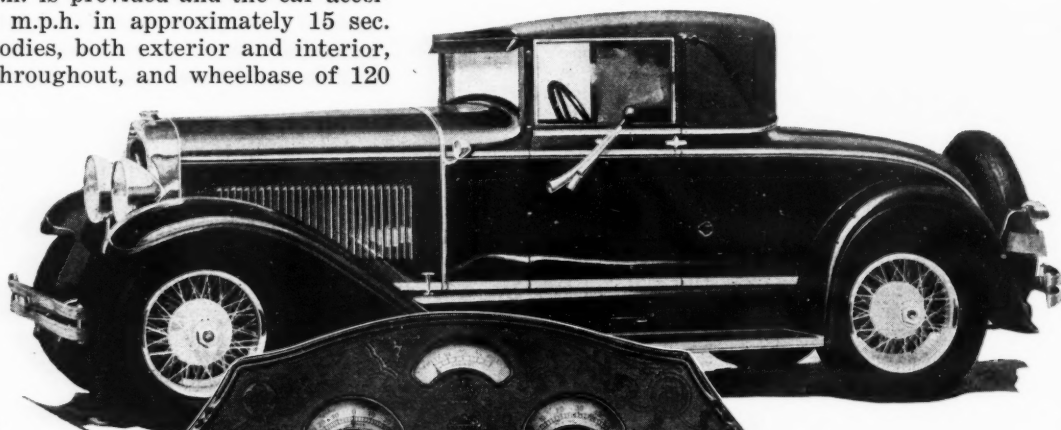
The new car has the massive construction and roominess of the large automobile combined with the flexibility requisite to modern motoring requirements. A top speed of 70 to 80 m.p.h. is provided and the car accelerates from 10 to 50 m.p.h. in approximately 15 sec.

Treatment of the bodies, both exterior and interior, follow a new design throughout, and wheelbase of 120

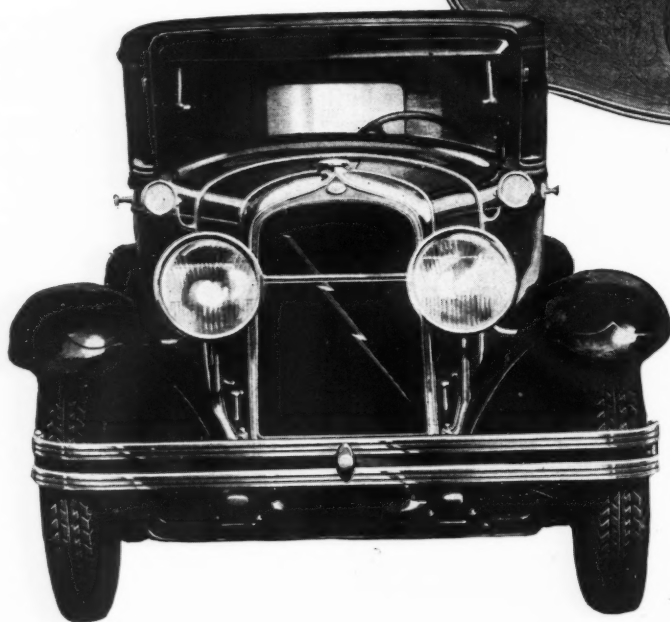
in. permits ample carrying capacity in both front and rear compartments. A cadet type windshield visor adds to the attractive appearance.

The new 78 will be produced in six body styles, ranging in price from \$1,895 to \$1,995. Closed types include a five-passenger sedan, two-passenger coupe and victoria coupe. A collapsible coupe, two-passenger roadster and a four-passenger speedster complete the line.

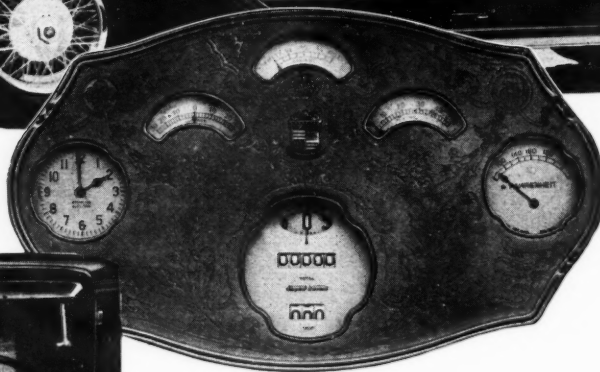
Right: The collapsible coupe of the new Marmon series comes with a rumble seat



Below: This front view of the Marmon 78 sedan shows the attractive radiator design and wide sweeping fenders



Left: The instrument panel of the Marmon 78 is finished in etched bronze and is indirectly lighted



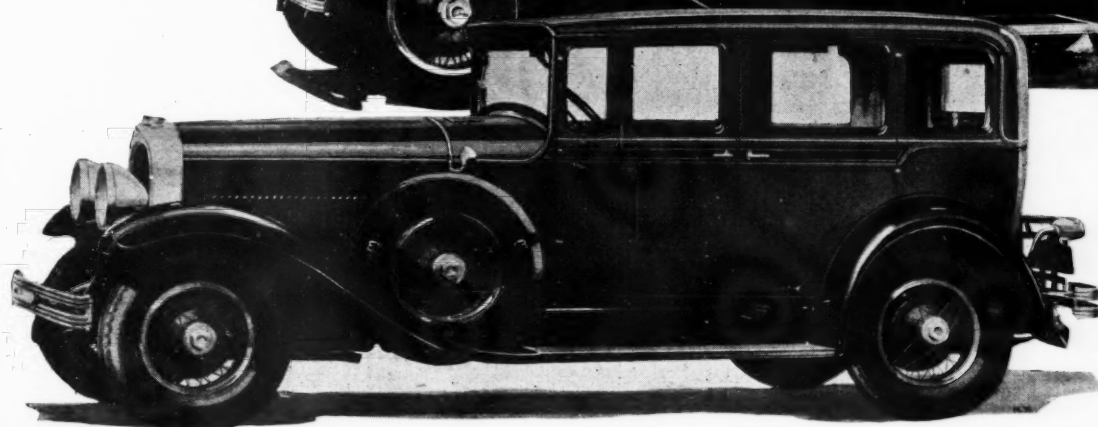
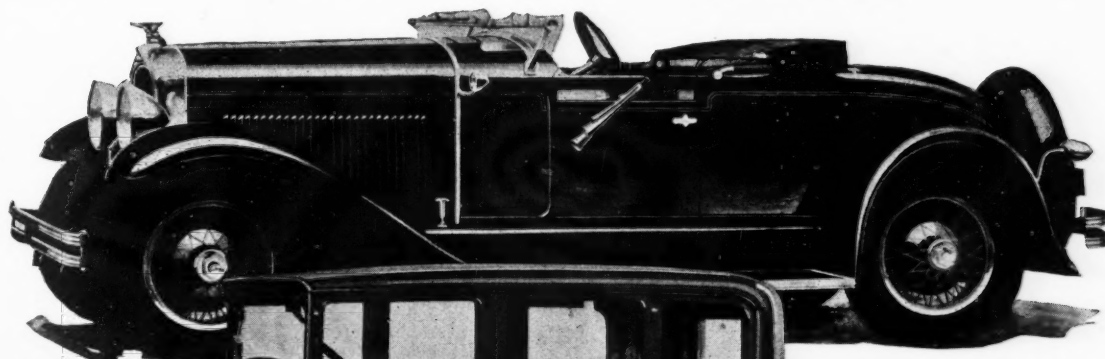
In appearance, the cars are long, low and sweeping, the low construction being made possible by the use of hypoid differential gears and a frame kick-up of 4 in. Color treatment is attractive. On the sedan, a panel extends across both front and rear doors, a similar effect being employed on the victoria coupe.

Interior appointments are of the latest attractive design. Garnish moldings are genuine walnut, all hardware is figured bronze, and instrument boards are decorated to conform to the general effect of the upholstery. Each body type will be available in a variety of colors, all based on the new jewel effects introduced by Marmon this year. Michaschist gray, emerald green and various combinations of blue, maroon, gray and brown are available for the five-passenger sedan and victoria coupe.

The style of all previous Marmon radiators is followed

is Larger Eight

Right: The roadster in the Marmon 78 line also comes with rumble seat



Left: The new Marmon 78 five-passenger sedan

in the new car but its size has been increased to effect greater mass and effectiveness to the front appearance, and at the same time to provide greater cooling capacity. Fenders are wider and are full-crown of the high-pitched type. The familiar Marmon pyramid has been incorporated on the front tip of each fender to give a new and pleasing effect.

A new type of nickel-plated, parabolic depressed-beam headlight is used to conform to the general front design. The headlights are mounted on nicked standards and are braced by a cross bar extending to each fender. Cowl lamps are mounted on a cowl surcingle on which are also mounted the tire brackets for the side-mounted wire wheels.

Tread has been widened to the full standard 56 in., allowing wider seats in both front and rear sections. Form-fitting cushions are used, and the gear-shift lever and hand-brake lever are set in such position as to make it possible for the driver or passenger to enter the front seat without discomfort.

Broadcloth and Bedford cord upholstery are used. The instrument board is in color to harmonize with the upholstery, with the instruments grouped in a panel of etched bronze, indirectly lighted.

The windshield folds forward on all open cars. The nickel-plated steering column is adjustable for tilt to suit the individual requirement and brake and clutch pedals are adjustable in length. The 19-in. steering wheel is flat and provided with a ribbed grip.

Outstanding among the features of the new power-plant is the duplex-down-draught manifolding system. This manifold, as the name implies, is in reality two manifolds with the outer section feeding cylinders one, two, seven and eight, and the inner section feeding cylinders three, four, five and six. One carburetor is used to feed both manifolds. The engine in the new

78 follows the established Marmon principle of overhead valve design and develops maximum brake horsepower of 86 at 3400 r.p.m. S.A.E. horsepower rating is 27.6. The engine, clutch and transmission are compact and are mounted on the frame on four-point rigid supports.

The new engine has a bore and stroke of $2 \frac{15}{16}$ by 4, and a compression ratio of 5.5 to 1. All eight cylinders are cast *en bloc* with the crankcase upper half integral.

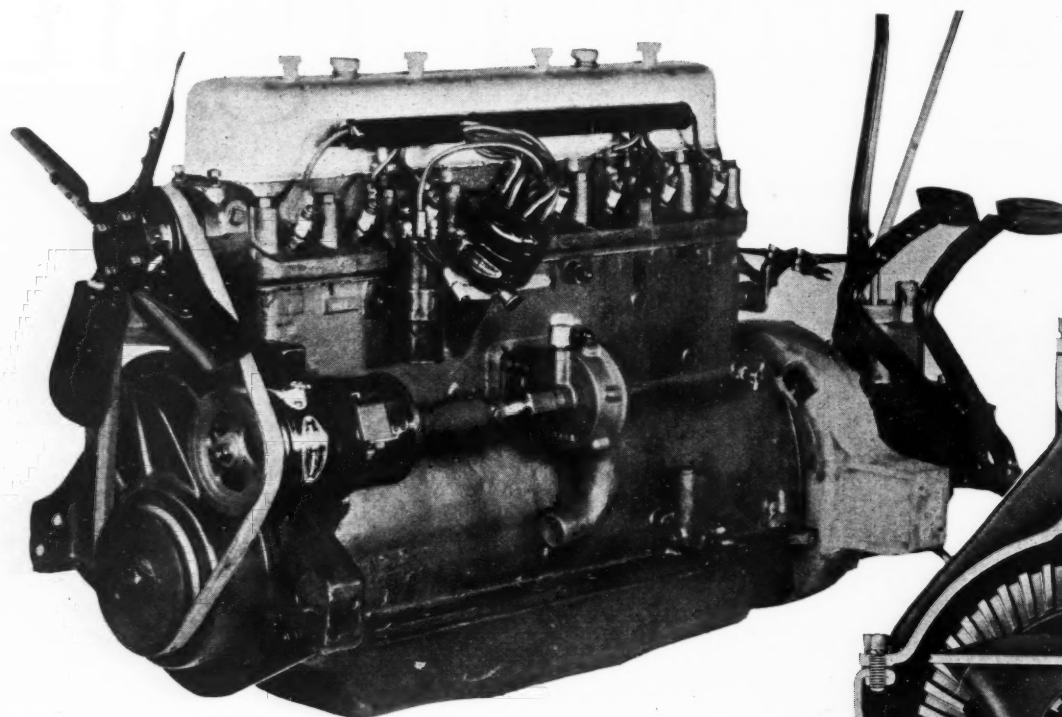
A double roller chain drives only the camshaft. The fan, generator and water pump are driven by a belt off the crankshaft. There is no idler adjustment in the front end drive. The camshaft is mounted on five bearings with diameters graduated from $1 \frac{7}{8}$ in. at the front to $1 \frac{7}{16}$ in. at the rear, to allow easy removal of the camshaft from the front of the engine.

Intake valves are Tungsten "tulips" with a head diameter of $1 \frac{29}{64}$ in. Tappet clearance is .008 in. hot, and spring pressure is 120 lb. The valves lift $2 \frac{1}{64}$ in. and are lubricated by force feed. The exhaust valves also are Tungstens with silchrome heads. The head diameter is $1 \frac{17}{64}$ in.

The crankshaft is mounted on five main bearings of babbitt-lined bronze with diameters of $2 \frac{3}{16}$ in. Crankshaft thrust is taken on the front bearing. A torsional vibration damper is used.

Connecting rods are of forged carbon steel with a center to center length of $7 \frac{3}{4}$ in. Diameter of the lower end bearings is $2 \frac{1}{8}$ in., and the babbitt is poured in the rod. No shims are used. Lynite aluminum alloy split skirt pistons are used. The weight of piston with pin and rings is but 13 oz. Pistons are $3 \frac{3}{16}$ in. in length. Perfect Circle rings are used in top and bottom and the center compression ring is a McQuay-Norris. Piston pins are $\frac{47}{64}$ in. in diameter with the bearing

NEW MARMON 78 IS LARGER EIGHT



Left: View of the left side of the Marmon 78 engine, showing the arrangement of the generator, water pump and fan

in the connecting rod and 1 in. in length. The pin bushing is of bronze with an outside diameter of 15/16 in.

Full pressure lubrication to main bearings, connecting rods, wrist pins, camshaft bearings and timing gear is supplied by gear oil pump at a normal pressure of 40 lb. A Wall oil filter and rectifier is used. Crankcase oil capacity is six qt. A thermostatic water control is standard on all models of the 78. The radiator is a Fedders cellular. Capacity of the cooling system is five gal. A Stromberg UX2 1 1/4 in. carburetor is fed through a Stewart-Warner vacuum tank. An Alemite gasoline filter is provided.

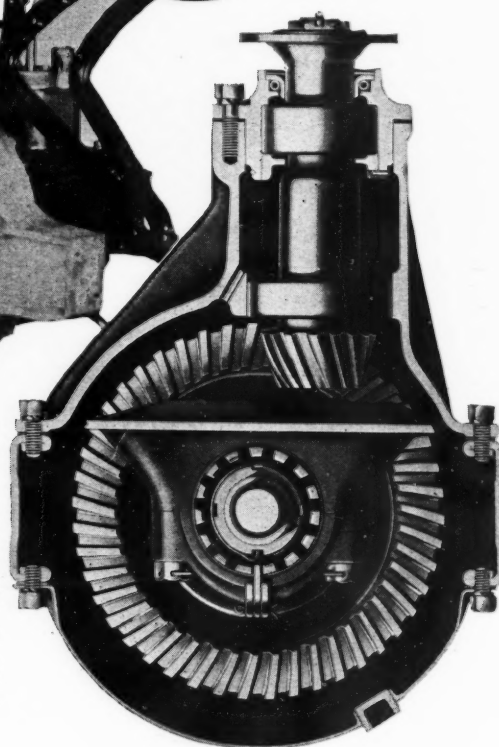
The Delco-Remy distributor is mounted on the side of the cylinder block at an angle, and is driven by spiral bevel gear off the camshaft. It is semi-automatic type of control with 20 deg. of manual advance and 25 deg. automatic. The starter motor also is Delco-Remy, engaged by Bendix pinion. The battery is located under the left front seat. Firing order is 1-6-2-5-8-3-7-4.

Chassis features include Alemite Zerk pressure greasing and Fedco theft-proof serial number plate. Springs are mounted in rubber cushions. The frame is made of carbon steel six in. in depth, 1/8 in. in thickness and with flanges two in. wide. A steel plate 16 in. wide takes the place of the rear cross member, and there are two gusseted cross members, one tubular cross member and the four engine supports, making for extreme rigidity.

The transmission is in unit with the clutch and has three speeds forward and one reverse, with ratios as follows: Low, 3 to 1; second, 1.75 to 1; high, 1 to 1; and reverse 3.875 to 1. Hyatt roller bearings are used for the pocket; the reverse idler is bushed; the main shaft front and rear is mounted on ball bearings; the countershaft is stationary with the secondary gear assembly mounted on two bronze bushings.

A 10-in., single-plate, dry-disk clutch is used with molded Raybestos facing material. Two Spicer all-metal universals are used. Both drive and torque are taken through the rear springs.

Right: Hypoid gears used in the new Marmon enable the car to be swung lower without sacrifice of road clearance



The rear axle is semi-floating type with gear ratio of 4.9 to 1. Hypoid gears are used for the final drive and minimum road clearance is 8 3/4 in. The pinion shaft is mounted in front on a ball bearing, and pinion shaft thrust also is taken on a ball bearing. Pinion adjustment is by shims.

The Salisbury I-beam front axle has a clearance of 7 1/2 in. The king pin transverse inclination is 7 deg.; spindle transverse inclination, 2 deg.; caster angle, 4 1/2 deg., and the toe end, 3/16 in.

Four-wheel Bendix mechanical brakes are standard equipment with 50-50 division of braking power on front and rear wheels. Service brake area is 224 sq. in. Both drums have a diameter of 12 in. and a lining width of 1 3/4 in. Both service and emergency brakes are internal expanding, and the emergency brake operates on all four wheels.

A cam and lever steering gear is provided with a ratio of 15.15 to 1. A minimum turning circle diameter of 40 ft. is allowed. Semi-elliptic springs are used in both front and rear with front springs 38 3/16 in. long, rear springs, 56 9/16 in. long, both with a width of 2 in. Nine leaves of chrome-vanadium steel are used for front springs and 10 for the rear.

Standard equipment on the new 78 includes an automatic windshield wiper, cowl ventilator, engine heat indicator, gasoline gage, artillery wheels, cigar lighter, sun visor, rear traffic signal, cowl lights, vanity set, smoking set, clock, transmission lock, tire lock, spare rim, Delco-Remy Klaxon horn and tire carrier.



Winter-Proofing *the*

How the Service Shop May Grasp a Seasonal Opportunity for Increased Business Volume Offered by the Advent of Inclement Weather

By Mack Jordan

THE automobile service man at this season of the year has an additional opportunity to increase his volume of business. The advent of the cold, wet, snowy months brings home to the motorist the need of adequate protection over his head. Several years ago, before the closed car had been put on a quantity production basis by manufacturers, only the wealthy and well-to-do could afford a closed car.

In those days open model automobiles, whether touring or roadster, were in the vast majority. When the tops of these open models went bad and needed replacing the services of an expert automobile trimmer and upholsterer were required for the job. But the task of recovering the average closed car roof is a great deal more simple than that of recovering the open car. Any service man who can drive tacks can redeck the standard closed car roof, provided he understands a few simple facts and principles which must be taken into account in a successfully executed job.

With the end in view to present these facts and principles clearly and concisely this article is written. The service man who familiarizes himself with these principles need not hesitate to suggest to his customers their need of new deck covers, and can feel confident in

his ability to give them a job as satisfactory as any turned out by the automobile manufacturers themselves. This is the time of year during which the re-decking business on closed cars is at its best, and by calling the customer's attention to the fact that this class of service is given, the income of the service shop can be materially increased during the otherwise dull months.

We shall take up first the simplest type of re-cover job. Here we have a roof which is still fairly well preserved, but the fabric is badly checked, perhaps because it has been dressed too often, and moisture seeps through, staining the head-lining and dripping onto the

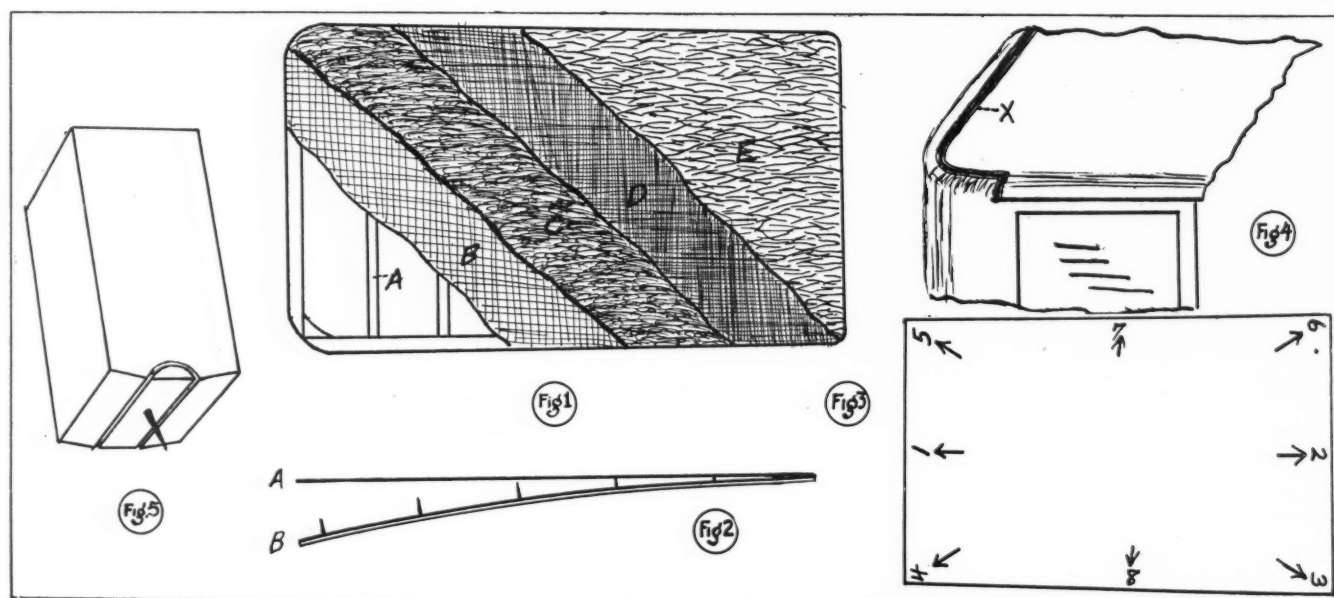
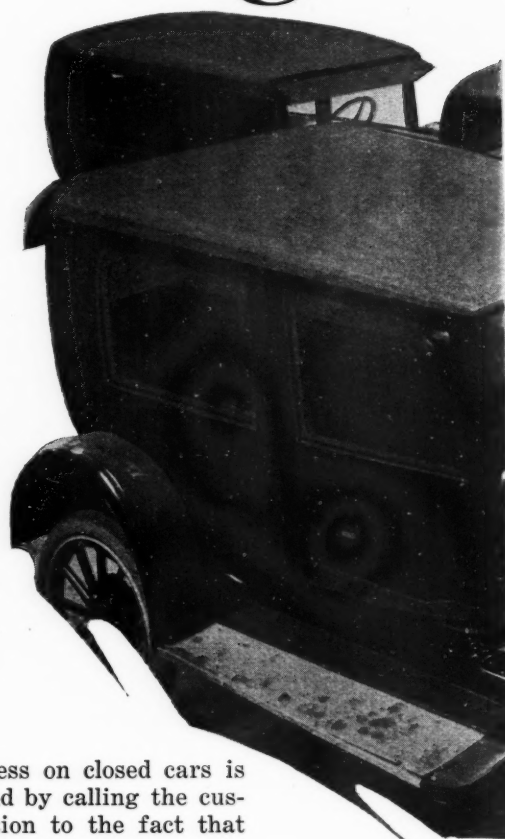
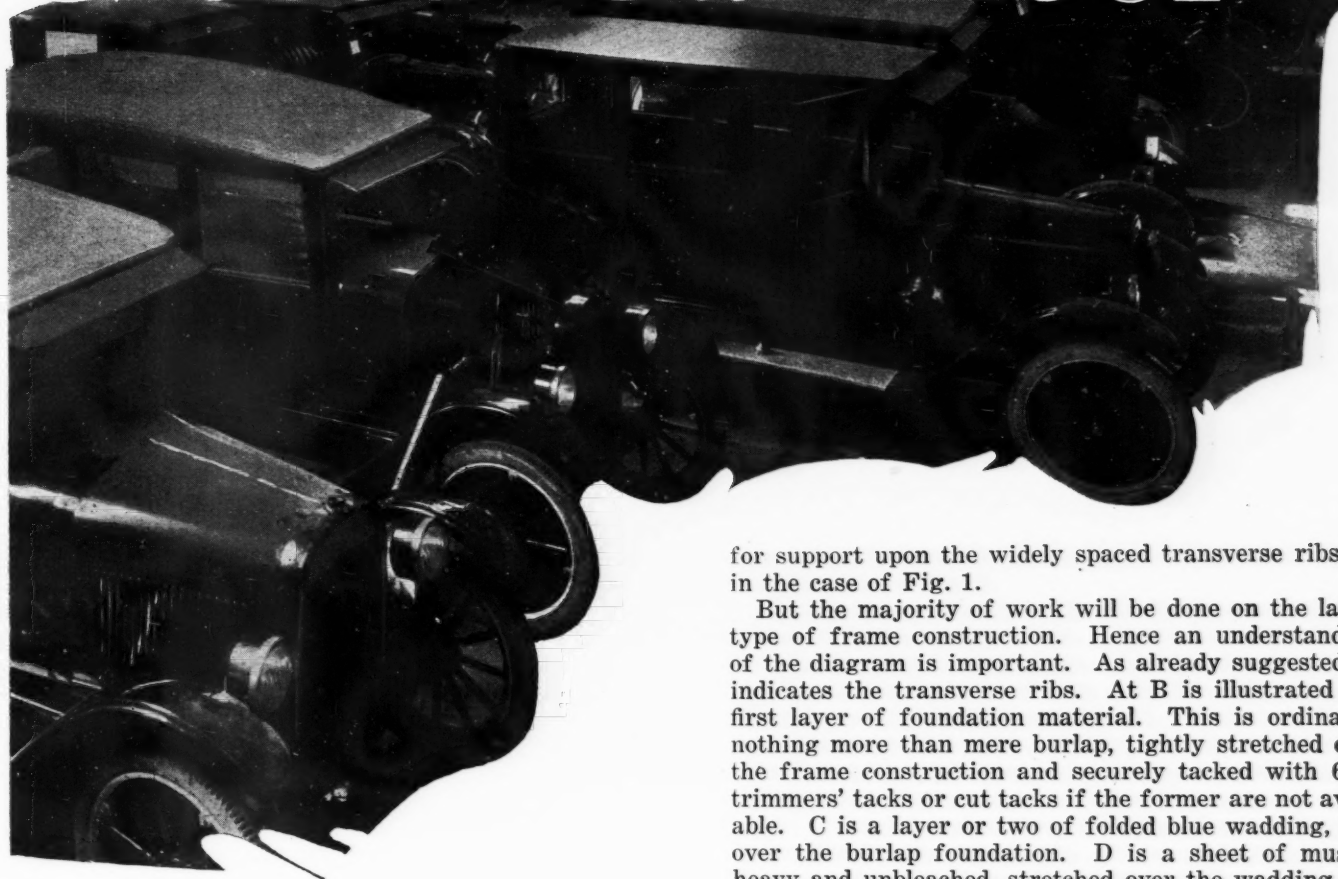


Fig. 1 is a diagram of a typical closed car roof, showing the succeeding layers of material entering into its construction. The other figures illustrate winter-proofing operations

Closed Car Roof



upholstering. In this case it is sometimes not necessary to remove the old covering fabric. The new fabric may be stretched over the old and tacked above the drip rail. The tacked edge surrounding the roof is then concealed by nailing over it a type of molding which conceals the tacks with which it is attached.

As a general rule, however, the old fabric covering should be removed. This may be done without taking off the drip rail or the original metal molding. To do this use is made of a sharp-bladed knife. The old fabric is cut clean directly above the upper edge of the original molding, all the way around. It is a simple matter, then, to tack on the new covering fabric in the manner described in the preceding paragraph, and similarly finishing off the tacked edges with a tack-concealing welt.

But often it is necessary to work over the entire deck assembly. Before going into detail relative to the processes here involved, we shall first consider a standard make-up for a deck assembly. Fig. 1 is a diagram of a typical closed car roof, showing the succeeding layers of material entering into its construction.

The type of framework illustrated in the drawing is one which has become very common on the middle and cheaper priced closed cars, since the advent of the quantity production basis of closed cars. Here, as illustrated by A in the figure, the framework consists merely of the main side and end members, and the cross ribs, spaced at intervals of from 12 to 16 in. The better class of sedan and coupe roofs are slatted longitudinally over these transverse ribs. In the latter case, the foundation material, together with its application, requires less care and attention than where it must depend solely

for support upon the widely spaced transverse ribs, as in the case of Fig. 1.

But the majority of work will be done on the latter type of frame construction. Hence an understanding of the diagram is important. As already suggested, A indicates the transverse ribs. At B is illustrated the first layer of foundation material. This is ordinarily nothing more than mere burlap, tightly stretched over the frame construction and securely tacked with 6-oz. trimmers' tacks or cut tacks if the former are not available. C is a layer or two of folded blue wadding, laid over the burlap foundation. D is a sheet of muslin, heavy and unbleached, stretched over the wadding and tacked with 4-oz. tacks. The final layer of covering fabric is indicated by E.

In beginning a complete redecking job, the first thing is to remove the drip rail or molding. If it has been attached with screws, these may easily be removed with an ordinary screw-driver. However, in many cases it will be a leaded molding in which nails have been set at intervals of from 4 to 6 in. This then, must be removed in the manner indicated in Fig. 2. Here A indicates the edge of the roof, and B indicates the molding. Molding of this type bends very readily, and once kinked it is difficult to get it straight. Therefore, the spikes must be gradually withdrawn from the roof as the figure suggests. A screw-driver with a thin bit makes a convenient instrument for this purpose. It is inserted directly against a nail in the molding, and a prying pressure applied sufficient to draw the molding out about $\frac{1}{8}$ -in. Proceeding to the next nail, the molding is pryed out slightly less. Then the first is returned to, and removed a little further. Following this method the molding is removed the entire circumference of the roof in the same manner.

The old covering fabric is then taken off by removing the tacks holding it with a hammer and a small thin chisel. The muslin covering is removed in the same manner. Then the layer of wadding is carefully rolled up and laid aside. If the original burlap foundation has been cut through in places by the cross-members it must be taken off and replaced. If, however, it has merely slackened and become loose between the ribs, then the edges may be unfastened and the burlap restretched. In any case, burlap should always be tacked

(Turn to page 44, please)

All-Weather Body Trend Salient at Salon

*Bold Colors Continue in Evidence on Custom Jobs and Variety
Predominates in Molding Treatment*

By K. W. Stillman

ONCE more the custom body builders of the world displayed their latest creations in motor coach work at the Twenty-third Annual Automobile Salon, held last week at the Hotel Commodore, New York City. More than 90 cars were exhibited, including chassis from five countries and the products of some 16 body builders.

The design trend most evident in this year's display is that of all-weather or collapsible bodies, which was apparent in a small degree at the Salon of last year but has progressed greatly during 1927, so that at last week's display well over 26 per cent of all bodies on exhibition embodied the collapsing top features. In addition to this large proportion of bodies in which the entire top is collapsible, there were a considerable number of

greens, browns, reds, yellows and all their tones and shades. The few cars employing black as a basic color are rendered conspicuous in such a colorful array of bodies.

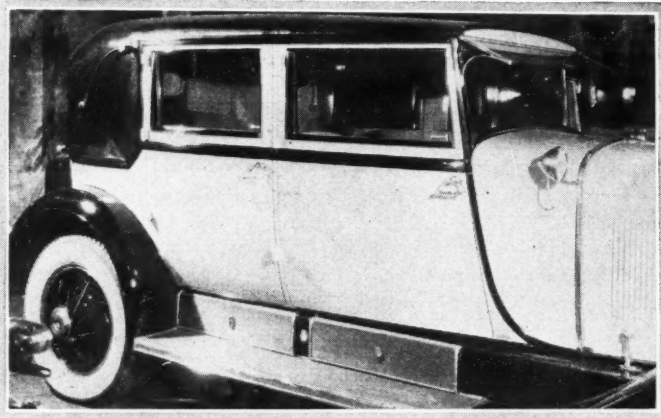
In regard to molding treatment it now appears to be conventional to be unconventional and there is, apparently, no particular method which is favored over others. Moldings range from the through type extending from the radiator shell all around the body, such as was very popular a few years ago, to an entire elimination of any molding.

Other features employed on a number of cars at the Salon include the use of walnut running boards fitted with polished metal treads or wearing strips; detachable wood spoke wheels which are interchangeable with wire and disk wheels; very pronounced moldings, often from 3 to 4 in. wide and extending up to 2 in. beyond the panels; door lock mechanisms which can be operated with ease so that slamming is not necessary to close them properly—this feature was particularly noticeable on some foreign bodies; adjustable front seats; the return of wicker work for exterior decoration; quite noticeable down-sweep of rear quarter tops in closed cars; interior hardware lacquered in colors to match the upholstery and trim materials; gas tanks at rear protected by wood slats or corrugated metal coverings which also serve as the base of trunk racks.

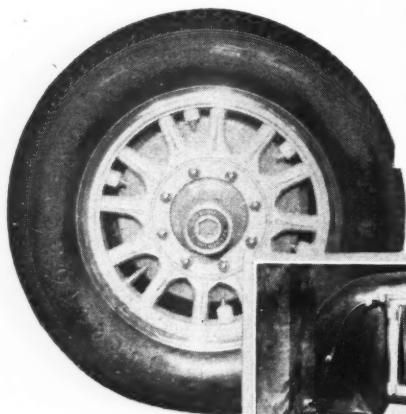
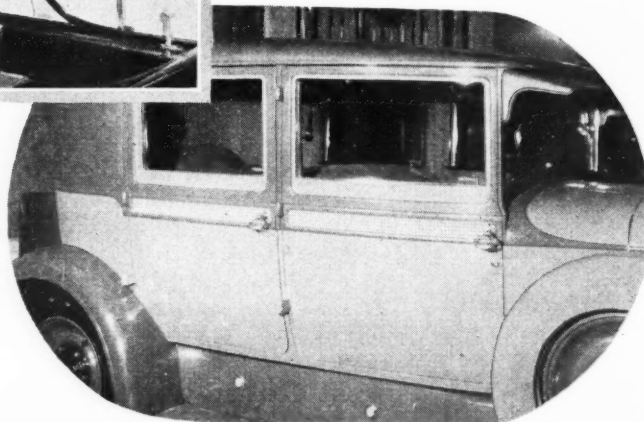
The 1927 Salon was very repre-

otherwise conventional sedans and limousines—about 6 per cent of the total—which had the landau feature of a collapsing rear quarter.

Colors continue to be used with vigor although there has been little change from last year's display in which the use of bold coloring effects reached its maximum. Grays predominate as a basic color in the bodies exhibited with many

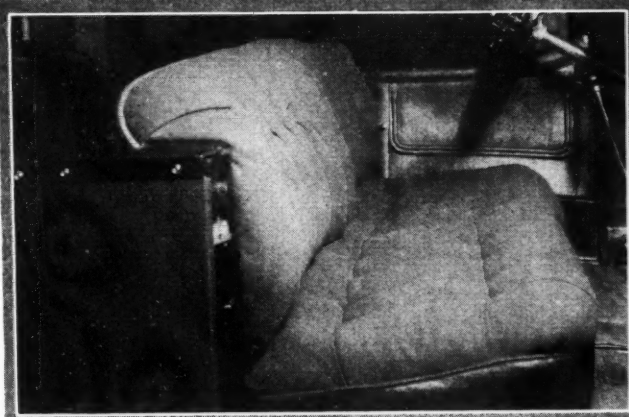


Above: Detachable artillery wheels which are interchangeable with wire and disk wheels are used on several Packard chassis. Center: A rather distinctive molding treatment is to be found on this Brunn sedan mounted on a Cadillac chassis. Right: In one of the Derham bodies wicker work is employed as a belt





Upper left: An example of the ventilating window as used by Brewster in a body mounted on Rolls-Royce chassis. Center: An interior view of the Locke-Stutz collapsible, eight passenger coupe showing how entrance is made to the occasional seats under the top. Behind these seats and outside the top is a conventional rumble seat. Upper right: This Rolls-



Royce gentleman's sedan-limousine has walnut trim on the front seat back and doors, a leather-covered removable center armrest, leather-trimmed cloth upholstery and ventilating panels behind the rear doors. Below: Brewster has developed what appears to be a very comfortable front seat design to give the impression of individual seats as shown in the Rolls-Royce touring

sentative of the world's best chassis and coach work including as it does exhibitions from five foreign countries in the Isotta-Fraschini, Mercedes, Minerva, Renault, and Rolls-Royce. Foreign body builders having exhibits include Sala, Hibbard-Barrin, Kellner and Castagna. American coach exhibitors include Brewster, Brunn, Derham, Dietrich, Fisher, Fleetwood, Holbrook, Judkins, Le Baron, Locke, Roberts Le Baron, Rollston, Weymann and Willoughby. American chassis on display include Cadillac, Chrysler, Franklin, La Salle, Lincoln, Packard Pierce-Arrow, Stearns-Knight, Stutz and Cunningham.

As is usual at Salons, the largest number of body models exhibited were variations of the town car type, 34 per cent of the total exhibits being of this nature. More or less conventional sedans, coupes and limousines made up about 35 per cent of the total. The next in importance were collapsible coupes and sport type open cars—two and four-seaters—each of which contributed about 10 per cent to the total exhibits. Collapsible sedans made up 7 per cent and sedans in which the rear quarter only is collapsible made up the rest—about 6 per cent.

So many novelties are introduced on individual cars that it would be tedious to describe them all but there are several outstanding features, which appear to be adaptable to production cars, which warrant description.

Two cars combined the advantages of rumble seat roadsters or coupes with those of closed cars. A Lincoln Brunn had two occasional seats located under the collapsible top and easily accessible through exceptionally wide doors and forward rolling and tilting front seats. A Locke body on a Stutz chassis carried this idea even

farther by providing a rumble seat in the rear in addition to two occasional seats beneath the collapsible top. This job seats eight passengers.

Another Locke body on a Chrysler 80 chassis was of the sport touring type and was unique in that it had only two doors, in front, the rear seats being reached by tilting the front seats. The entire body to the rear of the doors was covered with a very fine wicker work.

A number of cars are provided with narrow ventilating windows for the rear seat passengers. A Brewster-Rolls-Royce limousine has a narrow rear quarter window which swings out. A number of Dietrich collapsible sedan bodies also had this feature, the ventilating window being located between the front and rear doors. A Rollston body had a ventilating panel of top leather just to the rear of the door pane.

Decoration of interiors has usually been confined to the paneling on the doors and the front seat back, most upholstery cloths being of plain fabrics.

The paneling in many bodies is very elaborate with mosaics and inlays of fine woods employed in conjunction with brocades and needle point on the door panels. Pyroxylin type finishes which have been given a high polish are used on a considerably greater number of models than ever before.

Fittings continue to be what one expects in a custom body and include everything one might desire while traveling. The ultimate fitting, possibly, is a signaling device fitted in an Isotta-Fraschini sedan by which pressure of the proper button on a board handy to the rear seat occupants flashes a signal under the eyes of the chauffeur and directs him with "slow," "stop," "turn left," "home," and other commands.



This crowd around the new Ford Model A Tudor sedan on exhibit in the Philadelphia Commercial Museum is typical of the throngs who viewed the first public showing all over the country

Crowds Flock to See Ford in Its Debut

ONLY the deepest students of human nature and of human relations, says Arnold Bennett, are not astonished at the high percentage of people in any given population who can find leisure to witness any event that is really unusual and interesting. In the busiest industrial city, supposed to be inhabited exclusively by incessant toilers, 50 persons will immediately appear from nowhere to watch a dog-fight, 500 to stare at a fire, and 5000 to see a wedding procession of the exalted.

Thus we judge that during the last week the aforementioned deep students were not astonished to note that countless thousands throughout the nation flocked to designated points and gave the latest product of Ford ingenuity and resources the once-over. But it can hardly be said that the rest of the population took the unprecedented turnout in a similar, phlegmatic spirit. It was utterly astonishing in its uniqueness.

The behaviorists, the psychologists and Mr. Ford may disagree in theorizing upon the why of the happening, but the practical fact remains that hordes of curious humans

disregarded inclement weather and patiently bore traffic congestion to see the Ford Model A on the day it made its debut.

In the large cities and the small cities the exhibition centers were thronged. From dais to dais the crowds swarmed and marveled.

The new Ford had clicked.

Dispatches from various cities were unanimous in reporting an outpouring of adults and minors the like of which has never been recorded. In the metropolitan district of New York it was estimated that a quarter of a million persons visited the showrooms of scores of dealers and that 50,000 orders were placed. So pronounced was the interest that it was decided to hire Madison Square Garden and there display the new models day and night during the six-day bicycle race. Bogus salesmen were reported active, taking orders and deposits with promises of delivery in three weeks.

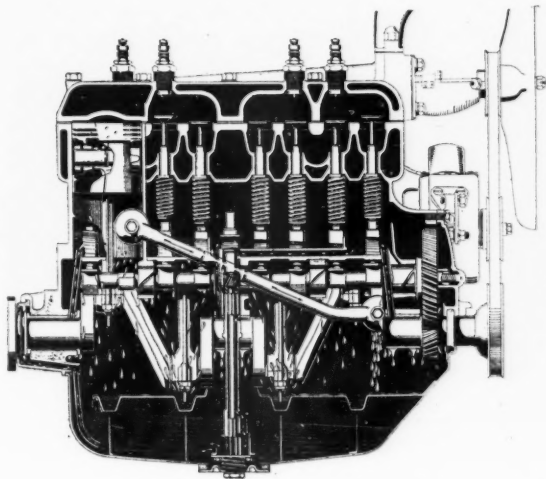
Like scenes were reproduced in Detroit, Philadelphia, Chicago, Boston, Kansas City, Denver and elsewhere. One

WHILE it is expected that two additional body models will be offered in the near future, the line at present, together with prices, is as follows:

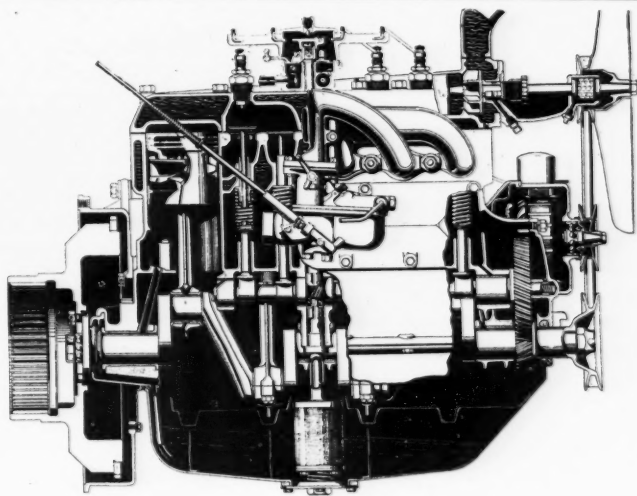
	Model A	Model T
Tudor sedan	\$495	\$495
Fordor sedan	570	545
Roadster	385	350
Sport coupe	550	...
Coupe	495	485
Roadster with pickup	395	381
Chassis	325	300
Truck chassis	460	375
Truck chassis with cab	545	460
Truck chassis with cab and stake body....	595	525
Truck chassis with cab and platform body.	595	525

Bumpers and bumperettes on the Model A are \$15 complete. They are attached on the assembly line, but if the purchaser does not want them the dealer is to take them off.

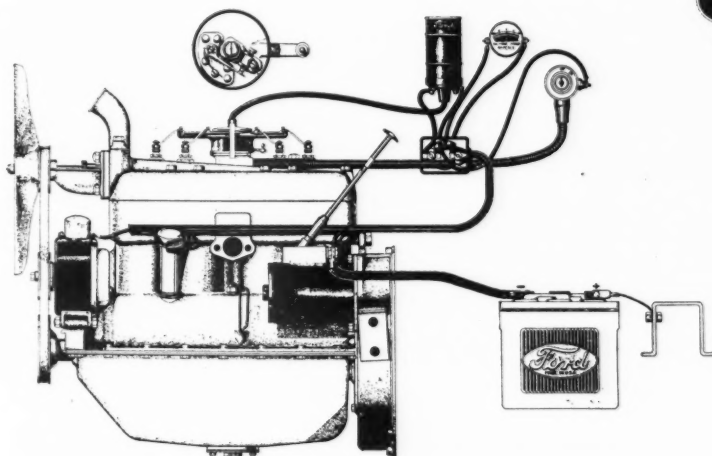
Engine Details of Ford Model "A"



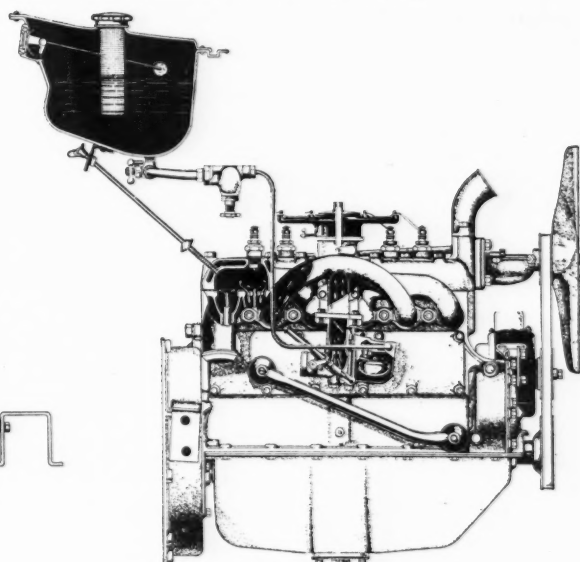
Engine oiling system



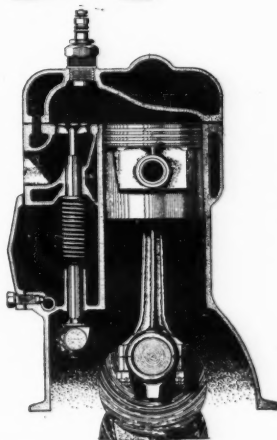
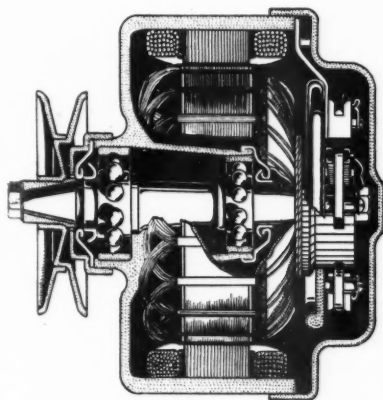
Longitudinal section of engine



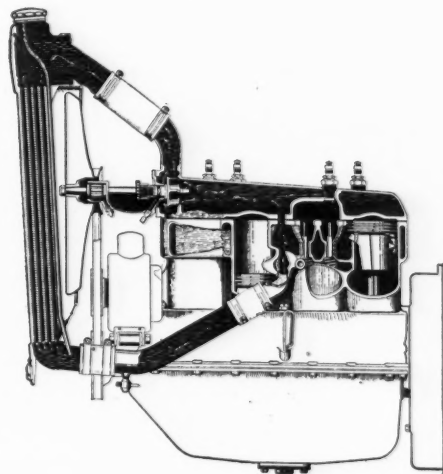
Wiring diagram



Fuel system



*(Above) camshaft; (on left) section of generator;
(on right) cross section through cylinder*



*Cooling system, showing pump
mounted on fan shaft*

CROWDS FLOCK TO SEE FORD

hundred thousand persons are reported to have attended the first showing in Convention Hall, Detroit. Sub-zero weather did not daunt 25,000 in St. Paul. In Philadelphia 75,000 made their way through rain, mud and traffic congestion to the Commercial Museum. The viewers included the entire student bodies of a number of public schools, attended by the teaching staffs. Denver, dispatches say, showed greater excitement only during the famous robbery of the United States Mint. In Boston 10,000 packed two of the largest display rooms in the first three hours.

And similarly all over the country the new Ford was an interesting cynosure.

With the public displays came additional technical information, and the following details amplify information previously given in MOTOR AGE:

Compression is carried at 80 lb. per sq. in. gage. Camshaft drive is through a bakelized fabric gear on the camshaft with helical teeth. Camshaft bearings are of 1 9/16 in. in diameter, the lengths of the bearings, reading from front to back, are 1 3/4, 7/8, 2, 7/8, 1 in. The valves are made of chrome-nickel alloy, the stem diameter being 5/16 in. The guides are removable. Mushroom type tappets are used and a clearance of 0.015 in. is given between the tappet and valve stem. The valve spring pressure is 36 lb. when the valves are closed, and the total lift of the valve is 0.287 in.

All crankshaft main bearings are of babbitt, with the upper halves iron-backed and the lower halves steel-backed. Their diameters are 1 5/8 in. and the lengths from front to rear are 2, 2 and 3 1/8 in. Thrust is taken on the rear bearing. Connecting rods are made of X section, with a center-to-center length of 7 1/2 in.

Spotting the High Spots on the Model A

Number of cylinders—4.
Bore and stroke—3 3/8 x 4 1/4.
Piston displacement—200.5 cu. in.
Rated horsepower—24.03.
Brake horsepower—40 at 2200 r.p.m.
Lubrication—pump circulated and splash.
Piston material—aluminum alloy.
Valve arrangement—on right side.
Number of main bearings—3.
Carburetor—Ford—Zenith.
Wheelbase—103 1/2 in.
Tire size—30 x 4.50 in.
Axle ratio—3.7 to 1.
Transmission—3-speed.
Brakes—4-wheel internal mechanical.
Number of body styles—6.
Price range—\$325 (chassis) to \$570 (Fordor)

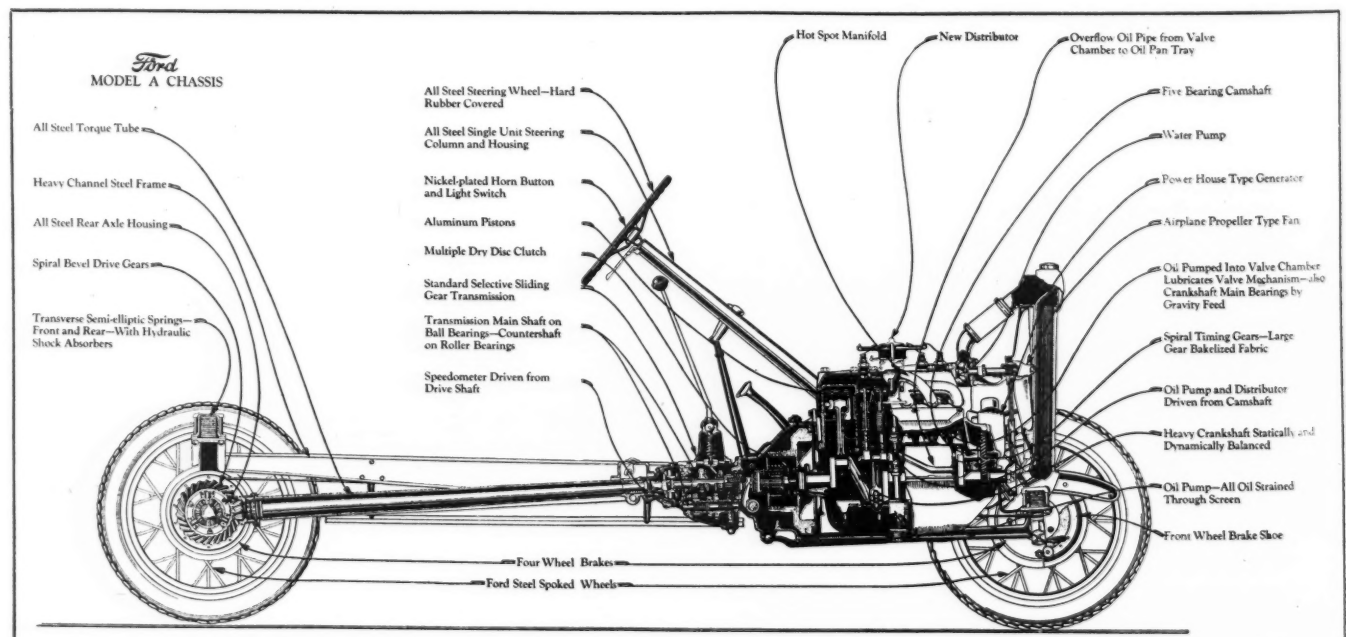
and a weight of 22 oz. The crankpin diameter is 1 1/2 in. and its length 1 5/8 in. The piston pin which is of the floating type is 1 in. in diameter. It has no bushing in the rod and is held against endwise motion by spring clips. The weight of the piston is 17 7/8 oz. The length of the piston is 3 29/32 in. The carburetor is a Ford-Zenith of 1 in. size. The fuel tank has a capacity of 10 gal. and a fuel filter of Ford make. Manual spark control with a 20 deg. range is used. The firing order, as formerly, is 1-2-4-3. The six-volt storage battery is of Ford make and has a capacity of 80 ampere-

hrs. The head lamps, which are also of Ford make, have a diameter of 8 1/2 in. The horn is motor-driven.

The car has a wheelbase of 103 1/2 in. and a tread of 56 in. The rear axle reduction is 3.7 to 1. The minimum road clearance is 9 1/2 in. The center section of the front axle is made of chromium steel. Brake diameters are 11 in. all around and the length of the lining is 14 in. per wheel, the width of the lining 1 1/2 in. and the thickness 3/16 in. This gives a total braking area of 168 sq. in.

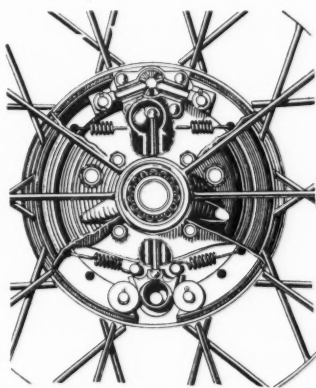
The housing of the steering gear is of forged steel and has the tubular steering column welded to it. The ratio of the steering gear is 11 1/4 to 1. Ball thrust bearings are used in the steering gear and Timken bearings carry the load in the spindles. The front spring is 1 3/4 in. wide and the rear 2 1/4. All springs are made of chromium steel. The pressed steel frame is of 5/32 in. stock, and is 4 in. deep. A high turbulence head combined with a downdraft manifold, assists in giving this engine 40 b.h.p. at 2200 r.p.m.

(Turn to page 43, please)

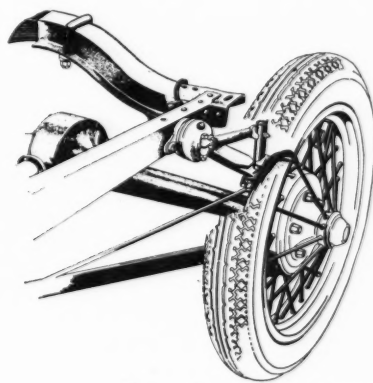


Ford Model "A" Chassis Features

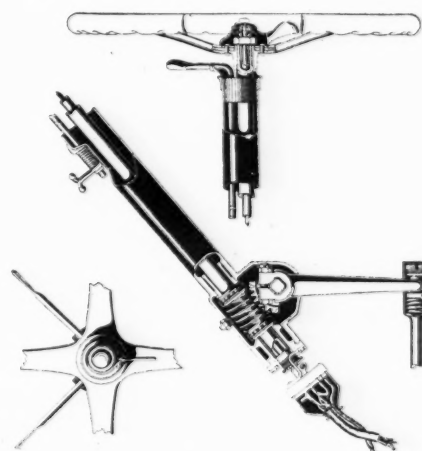
Showing Brake Details, Hydraulic Shock Absorber Mounting, and the Liberal Use of Ball and Roller Bearings in Transmission, Rear Axle and Steering Gear



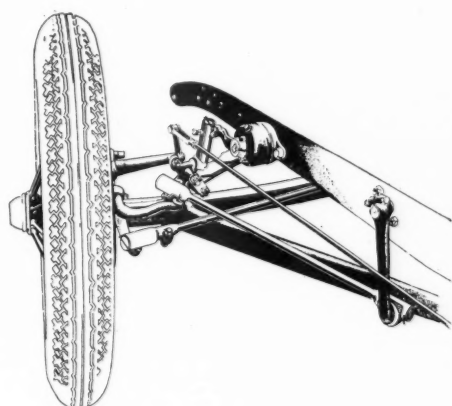
Brake mechanism



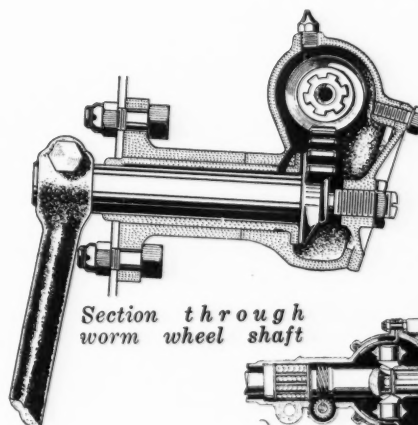
Rear corner of chassis



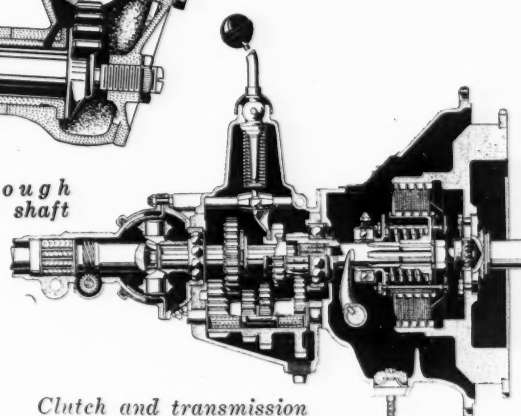
Steering gear detail



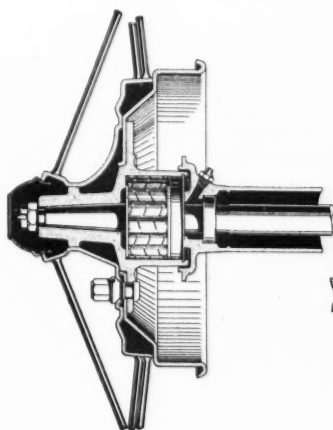
Front corner of chassis



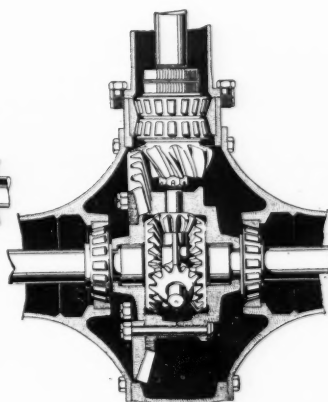
Section through
worm wheel shaft



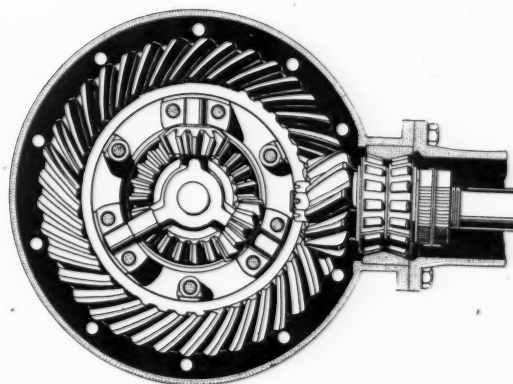
Clutch and transmission



Rear axle end



Rear axle center



Spiral bevel drive gears

S U C C E S S F U L S H O W M A N S H I P

(Continued from page 29)

Our decorations cost from \$14,000 to \$15,000 each year, and the temporary electrical wiring and fixtures cost from \$2,500 to \$3,000.

By having Mr. Tyre prepare and complete our decorations we secure a different decorative effect each year, and of all new material. Mr. Tyre is paid the usual architect's fee and a fee for supervising the work. We have found it to be money well spent. The public seems to think so because I believe they pay to come in to see the decorations as well as to look over the cars and accessories displayed in such a wonderful setting.

Third, advertising is essential to make a successful automobile show. For a number of years our association has employed William B. Bray, a well-known advertising man. He places about \$7,500 worth of advertising in the local and country papers, beginning 10 days before the show. He prepares all the publicity and sends it to the papers. We spend about \$3,000 on signs. Two hundred canvas signs, 6 by 8 ft., are put up on garages and in other advantageous places throughout the city. Eight hundred, 2 by 4 canvas signs are furnished to the oil companies to be placed on their tank wagons going all over the district. Some 12 ft. by 30 ft. signs are placed on buildings in good locations. All of the above mentioned signs are made of oilcloth on wooden stretchers.

Two years ago we used \$2,500 worth of painted and illuminated billboards in the city. We also have bulk-head signs in all the street cars in Philadelphia. These go in four days before the show and are continued in all the cars during the show.

In addition to this we put out 2500 three-color posters. The first publicity on the show is brought about in the way we secure the poster design. We ask the students of the different art schools in the city to submit poster designs. These designs must be in by the first of December. Then the committee selects two designs. The young artist whose sketch is selected first receives \$100, and the second \$50. The artist winning first prize is photographed as is also the poster design, and sent to the newspapers, together with a short sketch about the artist, the school attended, etc. Mr. Bray handles all this.

We have found by long experience that it pays to have a good advertising and publicity man to handle that part of the show.

Fourth, Attendance, or the Gate. I have tried to show in the three foregoing thoughts how we plan and prepare for our show. We have made a proper display of merchandise, we have decorated our building, we have advertised to the public that we are having a show, but to take care of those attending we have parking facilities, not of the best I will admit; we arrange for taxicab stands in the front of the museum; we have an ample number of ticket booths and turnstiles, employing six men from a large trust company in Philadelphia to sell our tickets. These men are used to making change and are bonded by the trust company. The man in charge of the ticket sellers gives us, at the close of the show each night, a receipt for the money and he then has it transported to the trust company. At all times the money is insured against theft.

We have ample police protection on the streets near the show and at the parking space and inside of the building. Officers in uniform and plain clothes men are always on duty. Firemen are regularly assigned to the Commercial Museum, several being on duty at

all times during the day and night to protect the crowds that stream through the gates.

We provide a restaurant in a room adjoining the show. We have a large smoking room in another room adjoining, ample toilet facilities and a cloak room.

We carry over a half million dollars' worth of liability insurance for the protection of show attenders.

The attendance at the Twenty-fifth Annual Show, held in January of 1926, was over 83,000, and the Twenty-sixth Annual Show in 1927, the number of persons who passed through the gates was over 93,000, showing without a doubt that the public is very much interested in a properly staged, artistically decorated automobile show.

We use an 18-piece orchestra to play during the afternoon and evening. The stand for the orchestra is situated over the entrance to the show, thus the first thing the public hears on entering is splendid orchestral music and sees dazzling lights, wonderful decorations and a fine display of automobiles, accessories and shop equipment. To create this scene of splendor the show committee spends between \$35,000 to \$45,000 before the show is opened.

Fifth, Records. In 1923 I went with the Philadelphia Automobile Trade Association to become executive secretary and show manager. The association had held 23 shows previously but there did not seem to be any adequate records, by records I do not mean accounts, but any systematic plan to be followed out in connection with the preparing and the operating of the show. After my first show in January of 1924, I decided to start what I called a "Show Year Book." Of course in my work in operating the show I had the advantage of having been an exhibitor for many years, first of cars and later of accessories, in the Philadelphia show. I knew the show from the standpoint of an exhibitor but I had to go at it from another angle, and if any kind of systematic records of previous shows had been kept my work would have been very much easier.

Each year since, I have taken a large scrap book and put in the details of everything pertaining to the show. We start in with the appointing of the show committee, the appointing of the architect, advertising manager, letting of contracts, renting of the building, diagrams for the car, accessory and shop equipment exhibits and copies of the folder of which we distribute from 70,000 to 80,000 to those attending the show. This folder gives a diagram of the show and lists the exhibitors.

The book includes copies of all printed forms used, including contract form for space; comparative attendance records for the last four years; daily attendance records, opposite of which is shown the kind of weather on each day of the show; comparative table of expenses for the past three shows; copies of all tickets, the number printed, the number sold; copies of poster; copies of advertising placed in the newspapers; publicity clippings from newspapers.

We record the names of the firms, the addresses, what we purchased, and the cost, of everything that has gone to make up the expense of the show, from the hiring of uniforms for ticket takers to the distribution of gifts to the pension funds of the police and fire departments.

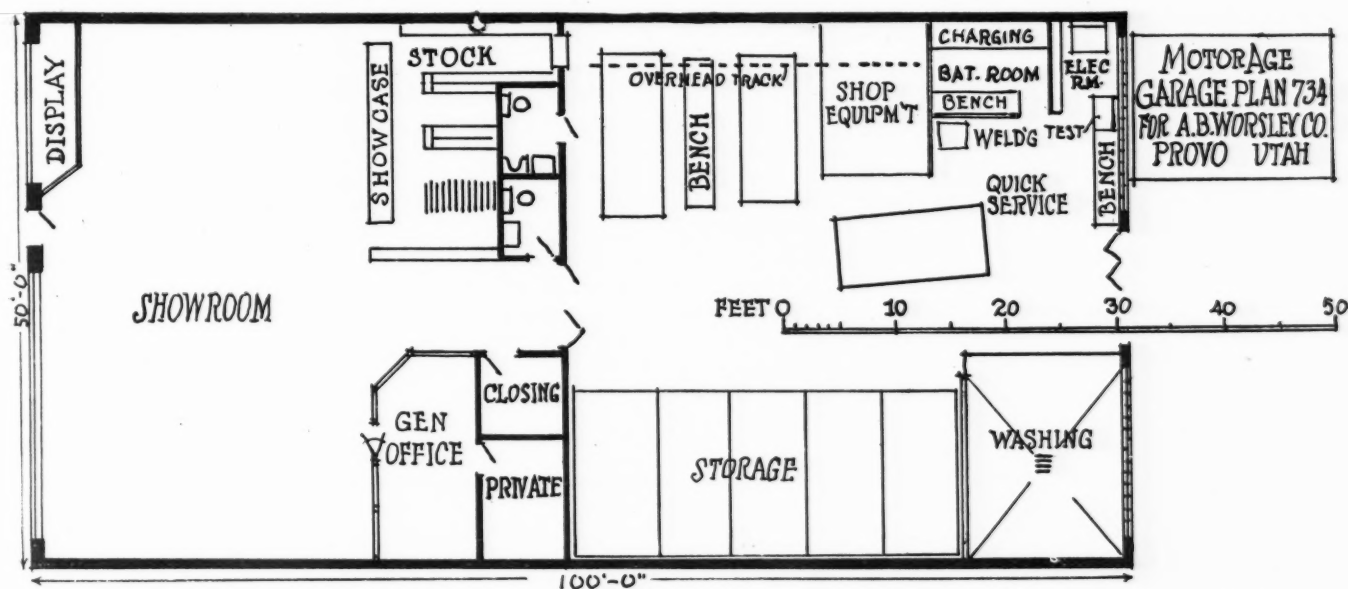
Today, I honestly believe that any man with office experience and ordinary intelligence could take hold of this Year Book and run the automobile show for the

(Turn to page 44, please)

Making the Very Best of a Fifty-foot Inside Lot

A Flexible Layout That Can Be Changed to Meet the Owner's Specific Needs

By Tom Wilder



The only car entrance to this building is by way of a right-of-way or private drive from the side street—not an ideal condition but a great saving of space for showroom and office

WE are enclosing a sketch of our property as requested. The building at the present time is 50 ft. x 100 ft. with brick sidewalls. We intend to replace the wooden floor with cement.

With the sketch enclosed we believe you will get a fairly good idea as to what we desire and we certainly appreciate your interest in helping us design something attractive and useful.

We have a right-of-way at the back and do not want to use any of the front for that purpose. We want our offices to be located in the rear of the salesroom. The property faces to the west and is on one of the main thoroughfares. —T. J. Oldroyd, A. B. Worsley Co., 120 N. University Ave., Provo, Utah.

WE are sorry to have kept you waiting so long for this plan but with so many inquiries coming in it seems impossible to keep up to date. For this same reason we have not given you an elevation, although we sometimes do this if time permits. It is really, however, the job of the architect, our services being intended for guidance in layout primarily.

We have not devoted many spaces for repair work because we find that the average dealer with a small force cannot work upon more than one or two jobs at a time. We have devoted considerable space to special services which you may not give but you can see how it can be done, and if you send

this work out the space can be used for storage or more repair spaces to fit your particular need.

In the same way the office and accessory parts store is flexible and can be extended rearward for more room.

It is noted also that your lot is considerably deeper than the building. Later if more shop space is needed an extension can be made without in any way injuring the present layout.

The shelving in the stockroom is to measurements of standard steel units, but of course other equipment can be used—even home made, although the steel counters and cases are very pleasing in appearance, decrease the fire hazard, and never wear out.

Crowds Flock to See Ford

(Continued from page 40)

Drive to the rear axle is by an enclosed propeller shaft with a ball-joint at the forward end. The radius rods are attached to the torque tube at the forward end. The rear axle is of three-quarter floating type with a total of four Timken taper roller bearings used at the differential and pinion, and three Hyatt roller bearings used at the wheels and forward end of the drive shaft.

The tires used are 30 by 4.50. The starting motor is located on the left side of the engine just forward of the flywheel housing and the generator is located at the front of the engine on the left side and is driven by a V-belt.

In addition to the Model A there will also be a Model AF produced for foreign markets. The export model will be identical with the Model A except that the bore will be 3 1/16 in., and the rear axle ratio 4.66:1 and right-hand drive will be used.

WINTER-PROOFING *the* CLOSED CAR ROOF

(Continued from page 35)

on a turned edge, as, otherwise, it pulls away from the tack readily.

To illustrate how the fabric, be it burlap, muslin or covering material, is stretched on, Fig. 3 is presented. The material is thrown over the roof and adjusted to its final position as nearly as possible. First the center of the front edge is securely tacked down. Next the center of the rear end is drawn and stretched, being also well tacked in position. It matters not which corner is next stretched and tacked. But whichever corner it is, the one immediately following it should be on the same side. Then the corners on the opposite side are likewise stretched and tacked. Thereafter the center of each side is drawn and nailed at 7 and 8 in Fig. 3. The rest of the tacking may be completed as desired. In the case of under-layers of fabric, the tacks need not be spaced any closer than 6 or 7 in., but for the covering material 2 or 3 in. is not to close.

After the burlap foundation has been satisfactorily stretched and tacked the wadding layer is again laid over it. Then the muslin sheet is snugly drawn and tacked over the wadding. As a rule, new material should be used, unless the original is still very well preserved. The final layer of new covering fabric is now thrown over the roof and stretched and tacked according to the order indicated in Fig. 3.

Sometimes a deck is encountered as suggested in

Fig. 4. Here the deck does not attach down over the edge in the back, but meets the back fabric on the horizontal plane of the roof, as indicated by X. In this case a rubber or "anti-rattle" putty should be liberally used in the tacked seam, while the tacks should be spaced at intervals of not less than 1 in. A tack-concealing molding is then attached over it as suggested in the drawing.

In the case of a drip rail, it is fastened on again. If an oval molding with nails leaded into it has been employed, a block of wood should be grooved in one end, as indicated in Fig. 5, to fit the molding. In re-applying the molding, this block is placed over the molding directly over the nail and struck with a hammer. This keeps the molding from becoming battered. But the succeeding nails must be driven in by degrees, according to the same principle by which they were removed, thus to avoid kinking the molding.

After one or two decks have been re-covered, the knack of the operation will be readily grasped and a smooth, neat looking job which will be durable and resist the weather can be executed without difficulty. Let your customers know you can do this kind of work and watch your profits grow. From \$10 to \$18, depending on the size and kind of job, is no unreasonable price. Material won't cost above 30 or 40 per cent of the price, and the work can be done in 1 to 2 hrs.

Successful Showmanship

(Continued from page 42)

P.A.T.A. just as successfully, from the point of attendance and finances, as I have in past four years. If you are operating a show, which is a rush proposition from start to finish, you can save yourself a lot of time by keeping a Year Book of the previous show.

There are two pages in the book to which I want to call special attention. They are headed "Complaints and Improvements for Next Year's Show." These pages I have found to be important. After the rush of the show is over we are frequently able to see things which can be improved. Don't wait until next year to put these down. Jot them down at once while fresh in the mind. When I open the book in October to get ready for the next show and go through it I know exactly what improvements should be made and from the complaints I know just what will need to be corrected.

There is a certain feeling of gratification when one knows he has done his best toward his show committee, toward the public that pays to attend the show and to the exhibitors who go to the expense of making the show possible, and especially when he knows that records have been kept which will enable anyone who may come after him to conduct the show on a better and higher plane each year.

Wrench Making Revised

THE American Engineering Standards Committee has specified that open end wrenches hereafter shall be marked with the width across the flat of the nut, cap screws, bolts, etc., that they are designed to fit. The principal makers of drop-forged wrenches have agreed to adopt this proposal and all their wrenches henceforth will be produced and marked only with the size of the opening.

In the future wrenches will be marked as follows:

Open- ings as stamped	AMERICAN STD.		U. S. STANDARD		For Amer. Std. Nuts; Size Bolts	For Amer. Std. Hex. Head Cap Screw Dia. Screws
	For U. S. Std. Nuts; Size Bolts	For U. S. Hex Cap Screws Diameter Screws	S.A.E. Std. For S.A.E. Std. Nuts and Caps Screws; Size Bolts	For S.A.E. Std. Nuts and Caps Screws; Size Bolts		
1/8	1/8	1/8	1/8	1/8	1/8	1/8
3/16	3/16	3/16	3/16	3/16	3/16	3/16
1/4	1/4	1/4	1/4	1/4	1/4	1/4
5/16	5/16	5/16	5/16	5/16	5/16	5/16
3/8	3/8	3/8	3/8	3/8	3/8	3/8
7/16	7/16	7/16	7/16	7/16	7/16	7/16
1/2	1/2	1/2	1/2	1/2	1/2	1/2
9/16	9/16	9/16	9/16	9/16	9/16	9/16
5/8	5/8	5/8	5/8	5/8	5/8	5/8
3/4	3/4	3/4	3/4	3/4	3/4	3/4
7/8	7/8	7/8	7/8	7/8	7/8	7/8
1	1	1	1	1	1	1
1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8
1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4
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5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4
5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2
5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4
6	6	6	6	6	6	6
6 1/8	6 1/8	6 1/8	6 1/8	6 1/8	6 1/8	6 1/8
6 1/4	6 1/4	6 1/4	6 1/4	6 1/4	6 1/4	6 1/4
6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2
6 3/4	6 3/4	6 3/4	6 3/4	6 3/4	6 3/4	6 3/4
7	7	7	7	7	7	7

* Proper clearance is provided by the manufacturer.

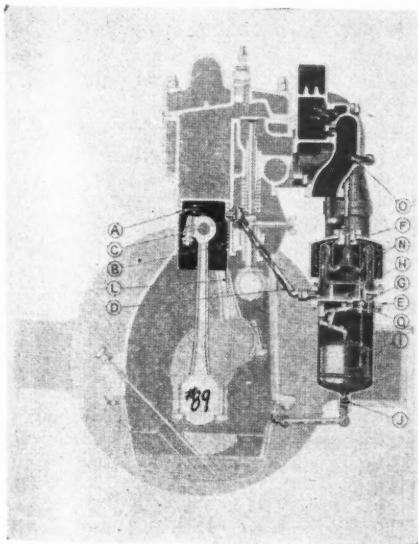
READERS' CLEARING HOUSE

Questions Answered By C. Edward Packer

Skinner Oil Rectifier Operation Explained

We are interested in receiving information on the Skinner Oil Reclaimer, a motor car attachment. We would appreciate any information you can give pertaining to the above, and particularly the name of the manufacturer.—R. W. Skoog, The Baltimore Gas Engineering Corp., Charleston, W. Va.

THE Skinner Oil Rectifier is a product of the Skinner Automotive Device Co., Inc., 2423 Warren Ave., W., Detroit, Mich. This device is fairly simple and is operated by the natural forces available in any engine when running, namely, the vacuum of the intake manifold and the exhaust heat.



It is recognized that the vacuum or suction in the combustion chamber of the engine tends to pull the oil up by the rings and on through to the surfaces of the piston head and cylinder walls. The Skinner system uses this vacuum to remove the oil from the lower piston ring groove after it has lubricated the pistons. This vacuum is available and is applied to the piston during the entire time the engine is in motion. The usual path of the oil upward by the piston rings into the combustion chamber, is not between the ring face and the wall of the cylinder, but around the back of the ring until it reaches the top of the piston. The same is true of the unburned fuel and vapors in their passage to the crankcase of the engine. It is on this basis that the Skinner Rectifier works. The Skinner system interrupts this passage of gasoline vapors and oil by

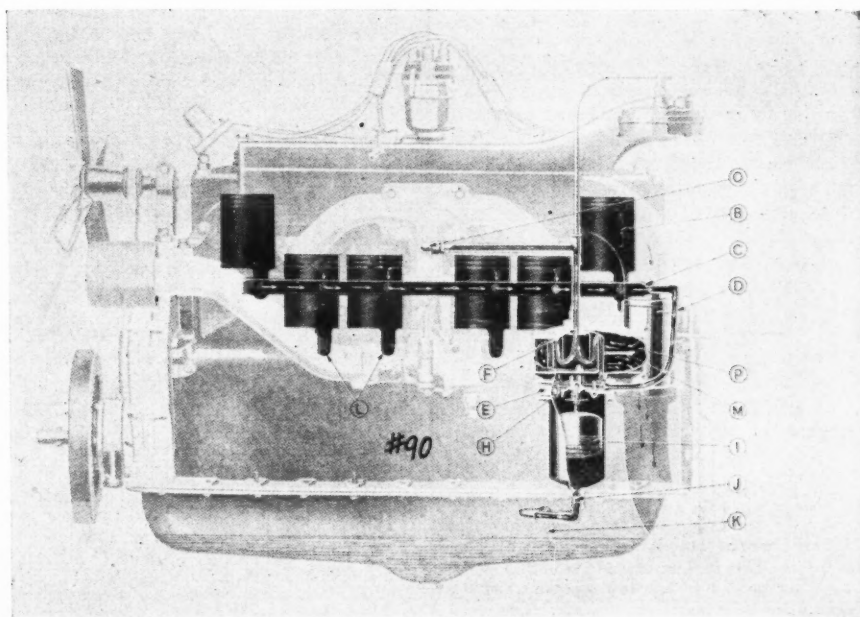
applying the vacuum of the intake manifold "O" in the first illustration, through a series of conduits or pipes to the rectifier, and through proper connections to a hole drilled through the side of the cylinder in register with the lower ring groove of the piston. This hole, or port, connects with a longitudinal groove "B," which in turn connects with the lower ring groove of the piston.

The construction and operation of the Skinner system and rectifier will be clearly seen by referring to the two illustrations. In the first one, the piston is shown in the downward or lower position with the lower ring groove in register with the hole or port, drilled through the cylinder wall.

As the ordinary piston is so short that it would entirely pass the hole drilled in the side of the cylinder, on its upward stroke, the side of the piston in the region of the longitudinal groove is elongated by the extension "L," which acts in the capacity of a sliding valve, so that the application of the vacuum to the piston is constant during the entire length of its stroke. The hole "A" is drilled through the side of the piston to its interior at a point behind the lower ring groove diametrically opposite the longitudinal groove "B." The hole "A" admits air or gas from the interior of the piston to the ring groove, aerating the mixture, breaking the vacuum and enabling it to withdraw the gasoline vapors and lubricating oil,

which otherwise would pass into the crankcase and the combustion chamber. The mixture of gasoline vapor or liquid, and lubricating oil aerated by the air or gas from the interior of the piston, is drawn by vacuum through the pipe "D" into the rectifier at a point immediately above the center casting "E."

The rectifier consists of two compartments or chambers, separated by the center casting "E." The top compartment is under vacuum during the entire time the engine is in motion. This upper compartment is suspended in an extension of the exhaust manifold where it is heated by a portion of the hot exhaust gases of the engine, which are caused to pass around it by a baffle, or valve "M." When the engine is cold, or when first started, the thermostatic valve "H" is in a closed position. This forces the oil and other constituents which have been removed from the piston ring groove, to accumulate and gradually fill up the space between the outer shell of the rectifier and the large outside baffle "M." The oil thus rises to the top of the large baffle "M." The mixture is heated by the exhaust gases "P" applied to the outer shell of the rectifier to such a temperature that the gasoline vapor constituents contained there are highly volatilized. This highly volatilized gasoline is drawn by the vacuum through the pipe at the top of the rectifier, into the intake manifold "O" from whence it passes into the combustion chamber of the engine



READERS' CLEARING HOUSE

where it is again used for fuel. As soon as the oil in the space between the large outside baffle "M" and the outside shell of the rectifier, reaches a predetermined temperature, the small thermostatic valve "H" automatically opens allowing the oil accumulated therein to flow to the lower compartment of the rectifier without being subjected to excessive heat and aeration. By this means overheating of the oil is prevented, carbon in the rectifier is eliminated, the oil is maintained at its original viscosity. It is to avoid these troubles that the thermostatic valve is used.

The gases, or vapor content, are caused to pass between the inside and outside baffles "N" so that their actions by the corners will precipitate the oil content into the bottom of the large baffle "N," then through the oil valve "Q" shown in the first illustration, to the lower compartment of the rectifier which contains the float mechanism. As the lower chamber is also under vacuum while the oil is flowing into it, the check valve "J" is held against its seat and prevents the oil from running into the crankcase. When the lower compartment fills with oil, the float "I" rises until it trips the mechanism, closing the valve "Q" and simultaneously opening valve "G" to the atmosphere, thus allowing the check valve "J" to drop.

The rush of air admitted to the lower compartment automatically closes the thermostatic valve "H." The accumulated oil then flows thru the valve "J" returning to the crankcase at point "K." As the float "I" reaches the bottom of the lower compartment, the mechanism trips again, closing the atmospheric valve "G" and automatically opening the valve "Q" through which the oil again flows to the lower compartment. As soon as the lower compartment is again under vacuum, the thermostatic valve "H" automatically opens.

By referring to the second illustration it will be seen that each cylinder of the engine is equipped by means of a pipe or bus-bar "C" along the cylinder so that the vacuum acts upon them all simultaneously. The normal amount of oil thus removed from the pistons of the ordinary 6-cylinder engine is a quart every ten miles when the engine is new and more when the parts are worn. It will be observed that the application of the vacuum to the side of the piston is constant and that the aerated mixture from the piston is heated and refined under constant vacuum, whereas the flow of the oil from the top to the lower compartment of the rectifier and then back into the crankcase is intermittent.

Timing the Wills "V" Eight

I have been a constant reader of MOTOR AGE for the past two years, and up until now I have not needed to ask any questions, but I have a few now that I want to ask. I have

a customer who owns a Wills-St. Claire "V"-type 8. Recently I have had to install a new main cam gear, and in disassembling I was very careful in marking the position of every gear and marked position of both camshafts, so as to be sure that I replaced all parts as they came apart, but on assembling the engine it seems that it is out of time. It does not seem to run as smooth at low speeds as it should, lacks power when under pull, and acts as if only one side was doing all the pulling. I have checked the valve timing on both sides with the marks on the flywheel and as far as that is concerned the timing is correct. I would like to have some information as to the correct time of opening of the intake and closing of exhaust in relation to the position of each piston and cylinder. Also give me the correct ignition timing, please. There may be something that I have slipped up on, so please give me all the detailed information you can on the timing of this motor and methods of procedure.—Jos. F. Miller, 417 Highland Ave., Abilene, Texas.

FROM the action of this Wills-St. Claire, we are inclined to believe that the trouble lies in the ignition adjustment. We would suggest that you remove the distributor cap and see that both sets of contact points are in good condition and that they both separate exactly the same amount, which would be between .020 and .025 in., but whichever it is they should both be *exactly* the same.

We are sorry we do not have the valve timing, with relation to piston travel, but the following suggestions will probably be helpful in checking up on the valve action. Before timing the valve, however, the ignition timing

should be checked. To do this, remove the small cover over the inspection hole in the flywheel bell housing. Then, with someone turning the engine slowly, stop when the mark "Top center No. 1" comes to the center of this hole. The next mark will be "Exhaust close No. 1." With the space between these two marks directly crossing the center of the hole, you have the point where the ignition interrupter point should be set.

Place the control on the steering wheel at full retard position. Loosen the cam on the interrupter shaft and move it so that both sets of points are fully open. Then adjust the opening of the points with the Delco gage which comes as part of the tool kit. In the absence of this gage, set these points for a clearance of .023 to .025 in., and, as we said before, be sure that both sets have exactly the same opening. Then tighten the cam slightly. Place the rotor on top of the cam and turn the cam until one of the rotor contacts is directly under the terminal marked No. 1 on the Bakelite housing. The final tightening of the cam should be such that when the backlash in the gears is rocked forward the points should be opened and when rocked backward against the backlash the points should be just closed. When you have found this point, tighten the cam permanently and the ignition is set.

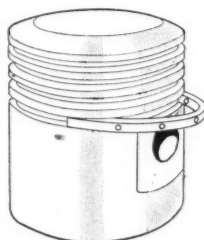
It is possible for the valve timing to be out of synchronism and this would account for uneven action in the engine also. If this should be the case, it will be necessary to time the valves before setting the ignition timing, because of the fact that the drive to the ignition is dependent on the valve drive also, and if the valves are out of time we would advise that you set them before setting the interrupter. The Wills-St. Claire engine has cylinders set at an angle of 60 deg. The firing order and the arrangement of the number of cylinders is shown on the top of the distributor cover, No. 1 cylinder is at the right at front, and No. 8 the last cylinder on the left bank at the rear. The firing order is 1-8-3-6-4-5-2-7. In other words, the engine fires like two four-cylinder engines, having a firing order of 1-3-4-2, firing on the right bank first and then alternating to the left bank. Remove the end plate on the camshaft house. Then proceed as follows: time the right block first. To do this proceed as in timing the ignition, by turning the crank slowly until the mark "Top Center 1" just passes the hole and the mark "Exhaust Valve Close No. 1" appears at the center of the hole. At this point you can disconnect the gear and vertical shaft on the valve guide to the right bank and set the camshaft so that the exhaust valve has just closed. Be sure that the proper clearance has been previously set between the cam and the disks on top of the valve stems. This should be .012 in.

There is an Oldham coupling in each of the vertical valve driveshafts and in addition to this the bevel gears that

SHOP KINKS

Ideas that have proved useful

IN order to get more accurate work and to save time when drilling pistons for oil drainage, I find that it is handy to take an old ring and drill it accurately and then use it for a guide in locating the holes to be drilled in the piston.—Wm. M. Williams, Lake Crystal, Minn.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

[READERS' CLEARING HOUSE]

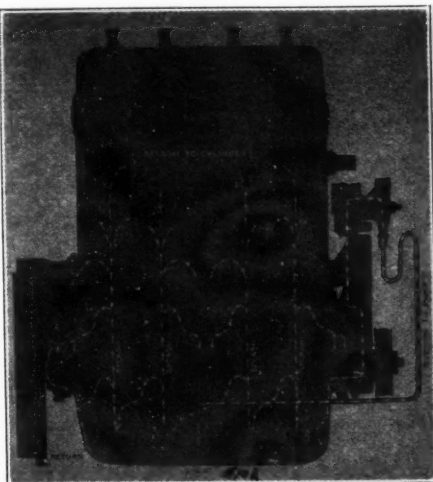
drive the shaft proper are held on by bolts and between the top bevel gear of the vertical driveshaft and the bottom gear is this coupling, something similar to the conventional magneto coupling, which is adjustable to very close limits.

In case you do not get the proper setting at the gear at the end of the camshaft, it would be well to drop the vertical shaft housing and change the coupling referred to. With this done you have completed the timing of the right block. As the angle of the cylinders is 60 deg. it will be necessary again to turn the crank slowly by hand, until the marks "Exhaust Close No. 8" appear. No. 8 exhaust is on the rear cylinder of the left bank, viewed from the rear, and you can time this valve in exactly the same manner as you did the No. 1 exhaust on the right bank. In every case, in timing both banks, always set the valve with the backlash rocked forward and then rocked backward, getting the camshaft in the position where the valve just closes when the backlash is moved in a direction of rotation, and just partially opened when the backlash is moved in the opposite direction.

Engine Lubrication of Essex 4

Can you give me any suggestion about the lubricating system on the old four-cylinder Essex? I'd like some idea of how the oil circulates and what care this system might need.—M. R. Rodriguez, P. O. Box 350, Ponce, Porto Rico.

WE are showing an illustration of the manner in which the oil circulates in the Essex four-cylinder engine. The crankcase holds five qts. of oil. At the point marked "start" there is an oil screen which should be cleaned twice a year by dropping the pan and thoroughly washing out the pan and troughs with gasoline. The suction of the pump draws the oil up from the sump and lets it flow down through the splash troughs. The dippers on the end of the connecting rods force oil to the connecting rod bearings and splash it up onto the wrist pins, cylinder walls, cams and camshaft bearings from which it runs down to the main bearing and then down into the troughs to be recirculated. You will notice on the rear of the engine there is a space between the dip troughs and the back of the crankcase where excess oil may return to the sump from which it is circulated again by the pump. At moderately high speed the oil gage should read between 3 and 4 lb. pressure. This gage is more or less arbitrary in its readings and an indication on it merely shows that the oil is circulating. It does not necessarily indicate the amount of oil that is circulating. However, if the gage reads higher than 3 to 4 lb. at fairly high speed the plug on the top of the pump should be removed, exposing the spring and the spring should

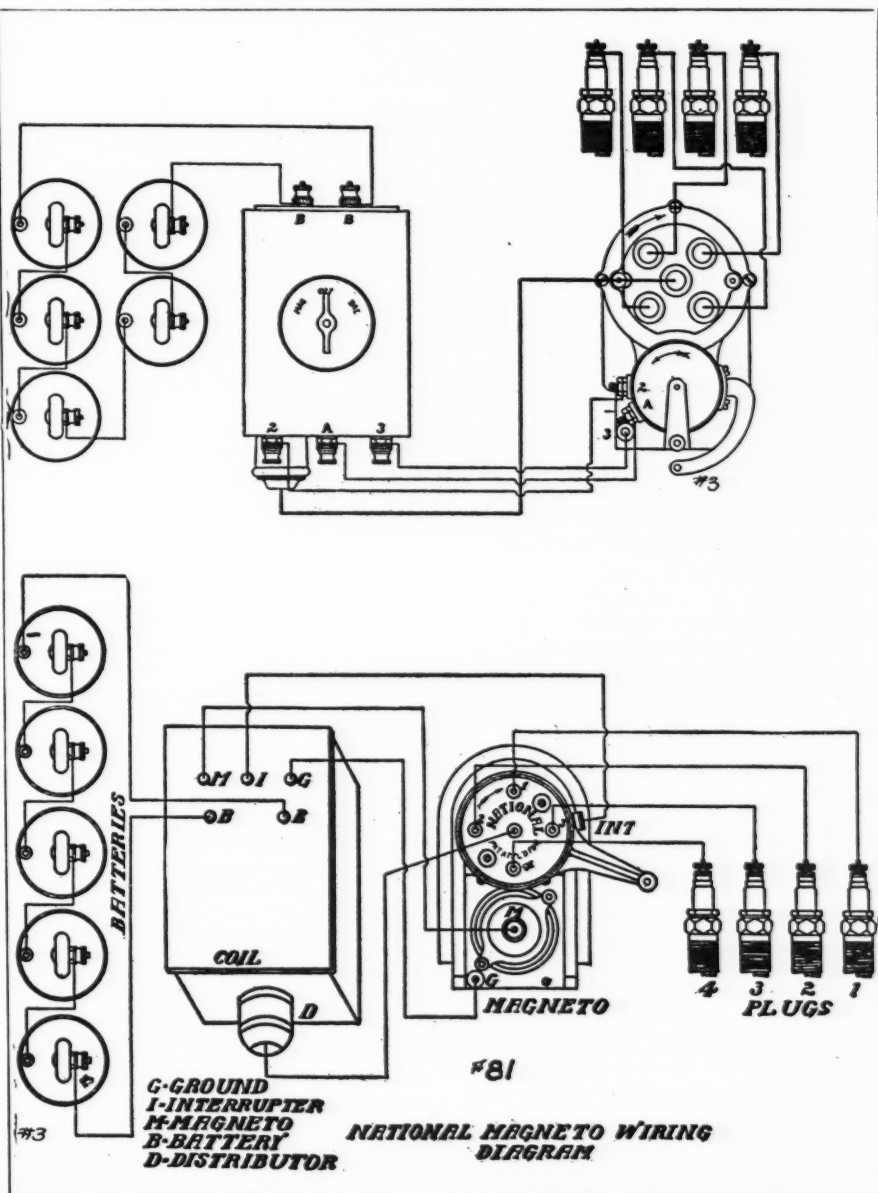


be compressed slightly. If the gage only reads one or two pounds at fairly high speed, stretching the spring a little will raise the pressure.

Easy to Use a Storage Battery

I have here a 1913 Reo with dual ignition by dry cells and magneto, and I would like to know if it would be possible to use a storage battery in place of the dry cells.—G. R. Burd, Burd Auto Service, Guttenberg, Iowa.

WE are showing two diagrams of this system as the 1913 Reo used both of these. Remembering that the center of a dry cell, or the carbon terminal, is positive, and that the outer terminal, or zinc connection, is negative, you are ready to connect your storage battery. In either diagram, connect the positive terminal of your 6-volt storage battery to the coil terminal that had been connected to the center terminal of the dry cells, and connect the other terminal of the coil to the negative terminal. The battery will have to be removed from the automobile from time to time and will have to be recharged.



Legal Queries on Automotive Topics

Answers by Wellington Gustin

When a Minor is Responsible

Case No. 1—A is a widow. B is a minor—her son. A owns a car. B drives it, gets repairs done, accessories, oil, gas, etc., which he charges to himself. In 1922 while still a minor he gave a note for the bill. B is now of age. Can we collect from either A or B? Case No. 2—A is a widow. B and C are her sons. B is of age; C is a minor. C owns a car. B drives it and runs up a bill charged to himself. Can we hold the car for this bill?—Clintonville Garage, Clintonville, Pa.

IN your case No. 1 you state no fact to show that A should be held at this late date. In your dealings you admit that you extended credit to the minor. The contracts of minors are voidable, except those given for necessities, and the courts have held that such charges as repairs to automobiles are not necessities. A minor is usually given one year after majority to disaffirm his contracts entered into when a minor.

In case No. 2, you may retain possession of the car for which you have made repairs, if B was authorized to have repairs made. It appears that you have only a common law lien for repairs in Pennsylvania. Such a lien requires continued possession by the repairman to preserve the lien. If you have relinquished possession of car then you have lost the lien. Neither is the lien revived by the car coming back into your possession for further repairs. But you would have a new lien for the additional repairs if you retain possession. The lien is against the car.

Court Action Precedes Sheriff Sale

Would you kindly advise how long we have to hold a car before we can sell it at sheriff's sale for parts and labor put on it? The owner of this car lives in South Dakota and the parts and labor were put on in our shop in Minnesota.

The owner sold the car to another party and told him to drive it over here and have it repaired at his expense. The party who ordered the work done also has a bill with us for parts and labor on other cars. Can we hold the car for this too?—Ormsby & Skoog, Ortonville, Minn.

IN the Session Laws of Minnesota for 1925, chapter 352, the garage keeper is given a lien for labor, materials, storage or machinery in repairing and storing automobiles. This lien shall close at the end of 60 days after the furnishing of the last item of labor, machinery, supplies, materials, and within 60 days after the termination of such storage unless within such a period a statement of the claim therefore be filed for record with the proper register of deeds in the county or city where the

owner of such motor vehicle resides. This statement must be sworn to and must set forth:

1. Name of the person claiming the lien, and notice of intention to claim and hold a lien.

2. Name of owner or reputed owner of such motor vehicle.

3. The license number of such motor vehicle, if licensed under the laws of Minnesota.

4. The amount claimed to be due, and that such amount is due for labor performed, or machinery, materials, supplies, storage furnished to the owner or at request of the agent of such owner.

5. The dates when the first and last items of the labor, or other contribution, were made.

"Such lien may be foreclosed by action within six months after the statement is filed."

This indicates that you must first start foreclosure proceedings in the court and obtain judgment before sheriff can legally sell the car.

The property repaired or stored can be held only for the particular benefit which it has received, and then only if the lien has been preserved, according to the statute as set out above.

A Rather Complicated State of Affairs

My claim is a rather unusual one, inasmuch as it is based on an oral agreement of mine to sell for another party—a woman—a Studebaker coupe which I had previously saved from the finance company for her. I obtained possession of the car and agreed to give her \$460 for it, I to keep everything that I obtained over and above that amount. A week after I had the car she asked me for \$100 towards the \$460. Inasmuch as I had gone to the expense of repainting and rebuilding the body and making other improvements, I thought I would be able to dispose of the car very shortly. So I gave her a check for \$100, but made no agreement as to when I would pay the balance, the agreement being, as stated before, that upon sale of the vehicle she would get her share.

A few other material things showed up in the motor of the car, and in order to sell the car I decided to have the motor gone over entirely. It so happened that the mechanic who did the work made me a flat price of \$36 for the entire job, but when I called for the car he had raised it to \$96. I refused to pay, so he got in touch with the owner of the car, and in view of the fact that an argument had developed over payment of the mechanic's lien, I deemed it advisable to purchase the car outright from her. Therefore I gave her my note for payment Dec. 27, 1926, for the sum of \$160 and a chattel mortgage for \$200 due and payable upon sale of the car.

Then I fell ill and during the time I was in a hospital she obtained possession

of the car, paid off the lien, and refuses to give me a cent of the money I paid out for previous fixing up of the car, or the \$100 down deposit that I made.

What is my remedy in this matter? The chattel mortgage had no date for payment on it, but the agreement was orally understood that the \$200 was to be paid upon my sale of the car. When I left the hospital I found the records so mixed up—the woman having sold the car to a gentleman out of the city—that my attorney advised me to give up the matter.—L. E. Halverson, Valley City, N. D.

ON your proposition I am of the opinion that the agreement to sell being uncompleted, was void for uncertainty. But admitting that you could make a sale, and that, therefore, the time could be then made certain, as in cases where no time is specified, the courts generally rule that the transaction must be completed within a reasonable time. Illness should be considered in ruling on the question of reasonable time. But such fact should be presented to the court and thus gain whatever advantage in his consideration. There is no set rule on the question.

From your statement of fact the agreed sum for repairs should prevail over any additional claims. If the seller voluntarily pays more, then she should not expect to hold you for the difference.

From your statement of facts, this car was sold to you, part payment being delayed, depending on an uncertainty. If the seller desired to take advantage of this uncertainty and avoid the sale, then she should return to you what you had put out in the car—put you in the position you were before as near as can be determined. Certainly your notes and cash should be returned.

But if seller preferred to treat your contract as good, she would only be entitled to damages for your breach of contract. From your statement only failure to make a sale within a reasonable time could be urged as a breach—a doubtful proposition at the best. She cannot set up speculative damages, she must show actual damages. If she could show no actual damages, as your facts indicate there were none, since the car was actually improved, the payments you made should be returned if not the expense you were out in improvements.

Here again, if the seller took legal action to recover the car, these matters should have been set up in the case of your defense.

New Accessories and Devices

Radiator Cap

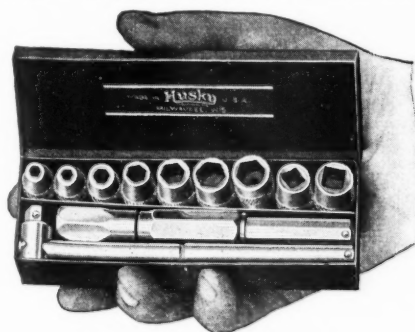
THE new Easyfill Radiator Cap, manufactured by the The Kingsley-Miller Co., 625 West Jackson Boulevard, Chicago, is a low-priced radiator cap of hinged lid, locking type construction. This cap, listing at \$2.00, is locked to the radiator neck by a specially designed set screw which cannot be removed.



The lid of the cap is arranged to take either temperature indicator or ornament. In case it is not desired to use either meter or ornament with the cap, an ornamental stud bolt listing at 25 cents extra is furnished. Made in sizes to fit the popular makes of smaller cars.

Husky Wrench Set

HUSKY BABY" set number 999 is the latest product of Husky Wrench Co., Milwaukee, Wis. These wrenches have hardened and tapered sockets, long handles and swivel grips. Socket sizes are: 5/32, 3/16, 1/4, 5/16, 11/32, 3/8, 7/18 in. hex.; 1/4 and 5/16 in. square. All sockets are stamped with the size of wrench opening. The combination tee has a self-locking head and 5 in. long handle with



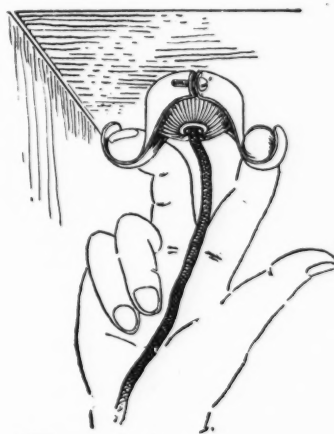
center groove. The speed screwdriver, which can also be used for extension, is 4 1/2 in. long and has a swivel grip for speed. Used together with combination tee for either speed-tee or speed-l handle.

All parts are nickel-plated and bur-

nished. Set is neatly packed in compact and strong metal box with hinged cover, and is made of auto body steel and finished in lacquer. List price \$3.75 complete.

Pull-A-Plug

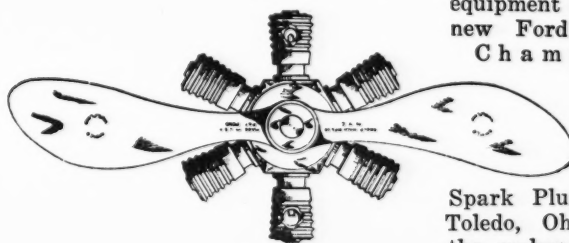
THE Pull-A-Plug is readily slipped onto standard plug-caps of any size, style or make and fastened by tightening the screw. It will not slip off and no rewiring is necessary. The two curved arms form convenient grips



for the fingers. The Pull-A-Plug also serves as a shield and protects the plug-cap from breakage. It is finished in black Japan to match the hard rubber or composition plug. It is neat, safe, durable and can be used in home, office and factory. Made by Ren Manufacturing Co., Winchester, Mass.

Radiator Ornament

THE Ammco Whirlplane is manufactured by the Anglo Machine Manufacturing Co., New York. It is made of solid aluminum, highly polished, revolving on ball bearings. It is so constructed that it will function under all weather conditions. The blade measures 12 inches from tip to tip. It is made with and without lights. The lights are located in two of the cylinders which turn with the blade. It is attached to the base of the radiator cap, with the switch for the lights placed on the dash board. List price, \$10.00 with lights; \$7.50 without lights.



License Plate Fasteners

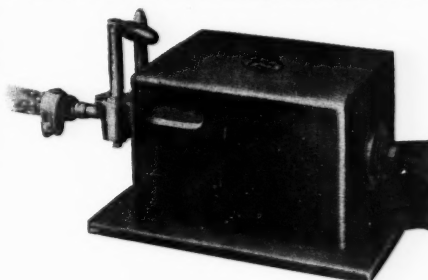
SNAP-TITE license plate fasteners are made from one piece of high grade spring wire. They are simple in construction, easy to apply, and hold the license plates firmly in place. The humps on the fasteners snap into the slots in the license plates and prevent



the fasteners from working out of place under the vibration of the moving vehicle. Made by G. I. Mitchell, 2140 Storm St., Ames, Iowa. List price for black enamel finish, 15 cents per pair or 25 cents per set; nickel plated 25 cents per pair or 40 cents per set.

Spark Plug Cleaner

THE Fleming Sanblast is a spark plug cleaning device that operates from the air line. The abrasive used in "spark shot" which is said to cut carbon without harming the porcelain.

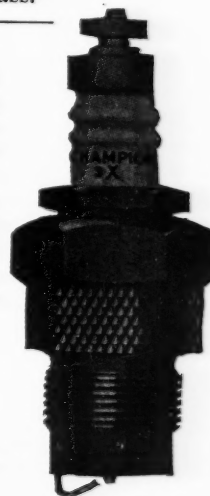


By means of adapters all sizes spark plugs can be screwed into this device and thoroughly cleaned. The price is \$10. Made by the Fleming Machine Co., Worcester, Mass.

Spark Plug

CHAMPION 3X is a new plug designed for new Model A Ford cars and, according to the maker, will be standard equipment on all new Ford cars.

Champion



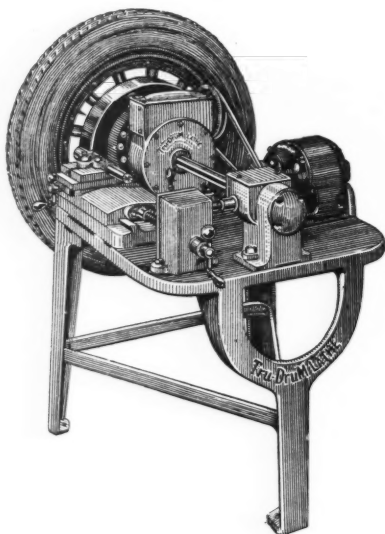
Spark Plug Co., Toledo, Ohio, is the maker.

New Shop Equipment

Drum Truing Lathe

THE Tru-Drum lathe is manufactured by the Manufacturers' Auto Equipment Co., Pasadena, Calif.

The lathe is automatic and is said not to require the services of a skilled operator. In using, wheel as removed from the car with tire and drum attached, is slipped on to the lathe and quickly trued. All scores and grooves disappear. While the drum is being

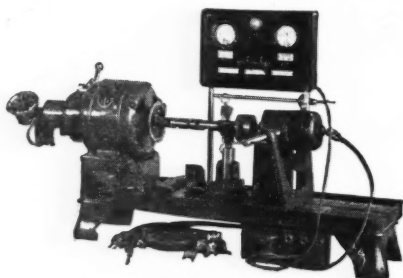


trued the operator may occupy himself with relining the bands. When the drum is trued the lathe automatically stops. A new wheel is put on and the operation is repeated. Internal or external brakes are handled with equal speed and accuracy. All standard brakes fit the Tru-Drum.

Tru-Drum equipment comes in three assemblies: one for passenger cars, one for trucks and one to handle both passenger cars and trucks. Made by Manufacturers' Auto Equipment Co., 995 East Green St., Pasadena, Calif.

Test Bench

ANNOUNCEMENT is made by Hobart Brothers Co., Troy, Ohio, of the addition of two new sizes to the test bench line. These are of 1½ and 2 hp. respectively. These two new benches have the same features as

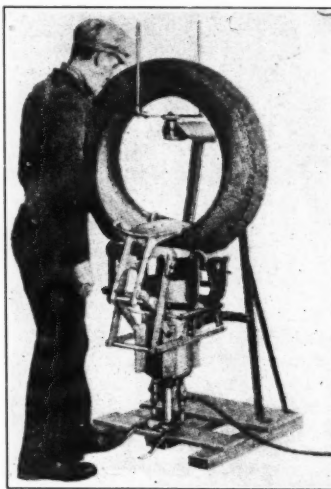


their present 1½ hp. outfit, differing only in rated capacity of the motors. The 1¼ hp. test bench, which will handle electrical tests in the average shop, lists at \$245.

Multibestos Reliner \$100

IN the issue of Nov. 17 MOTOR AGE carried a description of the new Multibestos brake reliner in which the price, by virtue of a vagrant period, was quoted as \$1.00. In consequence the Multibestos Co., of Walpole, Mass., received inquiries from readers whose eyes see all. So to the Multibestos Co. and to readers whose bargain hopes were dashed, we make apologetic correction. The price should have been \$100.

Heavy Duty Tire Inspector

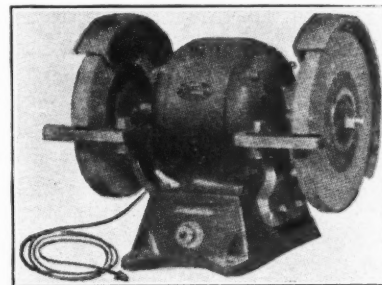


THE new Manley pneumatic tire inspector is operated by means of two foot pedals. One pedal lets air into

the cylinder, which is of large diameter so that the heaviest tire is spread with ease. The other pedal opens a release valve that lets the air out, permitting the tire to close again. As the machine is foot operated both hands are left free for handling the tire. The height of this machine overall is six feet, the shipping weight 305 lb. and the price \$65.

Bench Grinder

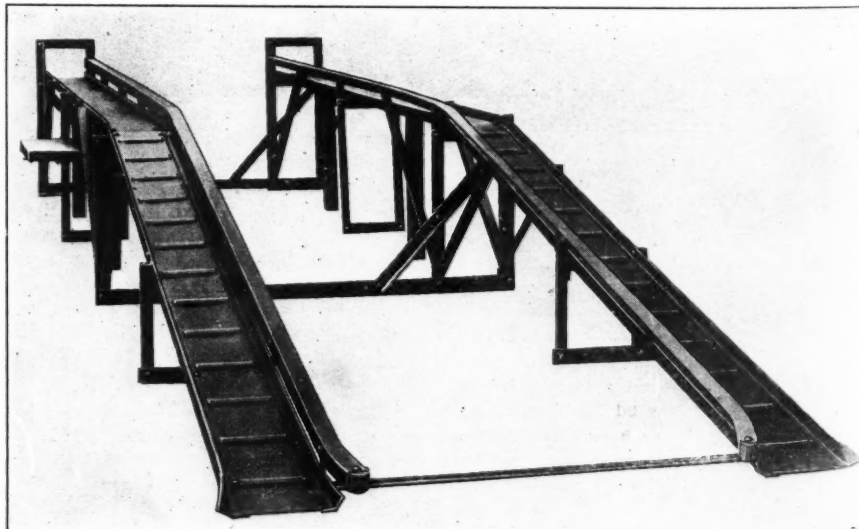
A POWERFUL little bench grinder, for operation on 110 volts either A.C. or D.C. with 1/3 hp. motor and supplied with 2¼ x 8 in. grinding



wheels is one of the latest offerings of the Canedy-Otto Manufacturing Co. of Chicago Heights, Ill. The price is \$38.

All Steel Runway

AN exceptionally durable steel runway is now being produced by the Manley Manufacturing Co., York, Pa. This runway is constructed of heavy steel sections that will not bend or buckle even under the heaviest cars. The construction of the track eliminates the outside guard rail, thus leaving the wheels and tires readily accessible. In the double incline style this runway sells for \$140, and in the single incline type the price is \$105.



Prices, Weights and Equipment of Current Passenger Car Models

Important Changes in Specifications and Price Tables since last issue.

DAVIS "99-28"

1928 Specifications and Body Models

FORD "A"

1928 Specifications and Body Models

GARDNER "75"

Price Changes

MARMON "78"

1928 Specifications and Body Models

Passengers and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
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AUBURN

"6-66"

2-4p. Roadster...	\$1095	2	2750	ahrw
5p. Touring...	1145	4	2760	ahrw
2-4p. Cabriolet...	1295	2	2850	
5p. Sp. Sedan...	1195	2	3040	ahr
5p. Sedan...	1295	4	3080	ahr
5p. Wand. Sedan...	1345	4	3040	ahr
"8-77"				
2-4p. Roadster...	1395	2	3005	ahmnrw
5p. Touring...	1445	4	2960	ahmnrw
2-4p. Cabriolet...	1595	2	3170	
5p. Sp. Sedan...	1495	4	3350	ahmnr
5p. Sedan...	1695	4	3390	ahmnr
5p. Wand. Sedan...	1745	4	3390	ahmnr
"8-83"				
2-4p. Sp. Rdster...	1995	2	3180	ahmnrw
5p. Touring...	2045	4	3200	ahmnrw
2-4p. Cabriolet...	2095	2	3600	
5p. Sp. Sedan...	2095	4	3380	ahmnr
5p. Sedan...	2195	4	3450	ahmnr
5p. Wanderer...	2245	4	3450	ahmnr
147" W.B.				
7p. Touring...	2295	4	3790	w
7p. Sedan...	2595	4	4200	ahmnr

BUICK

"115"

4p. DeL. Rdstr...	\$1195	2	2990	agbmnr
5p. Touring DeL...	1225	4	3040	agbmnr
2-4p. Coupe...	1195	2	3110	agbmnr
5p. 2d. Sedan...	1195	2	3215	agbmnr
5p. 4d. Sedan...	1295	4	3300	agbmnr
4p. Ctry. Club...	1275	4	3190	agbmnr
5p. Town Bro'm...	1375	4	3305	agbmnr
"120"				
4p. Coupe...	1465	2	3800	agbmnr
5p. 4d. Sedan...	1495	4	3870	agbmnr
5p. Town Bro'm...	1575	4	3900	agbmnr
"123"				
2-4p. Sp. Rdster...	1495	2	3655	ghmnr
4p. Sp. Touring...	1525	4	3735	ghmnr
5p. Coupe...	1850	2	3940	agbmnr

Passengers and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
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3p. Ctry. Club...	1765	2	3905	agbmnr
5p. Bro. Sedan...	1925	4	4050	agbmnr
7p. Sedan...	1995	4	4115	agbmnr

CADILLAC "341"

"Fisher"

2-4p. Roadster...	\$3350	2	4440	aghlmnprx
5p. Phaeton...	3450	4	4440	aghlmnprx
5p. Sp. Phaeton...	3950	4	4665	aghlmnprx
7p. Touring...	3295	2	4700	aghlmnprx
2-4p. Coupe...	3495	2	4595	aghlmnprx
5p. Coupe...	3495	2	4730	aghlmnprx
5p. Sedan...	3595	4	4935	aghlmnprx
5p. Town Sedan...	3395	4	4845	aghlmnprx
7p. Sedan...	3695	4	4935	aghlmnprx
5p. Imp. Sedan...	3745	4	4880	aghlmnprx
7p. Imp. Sedan...	3895	4	5065	aghlmnprx
5p. Imperial Cab...	3745	4	4880	aghlmnprx
7p. Imperial Cab...	3895	4	5065	aghlmnprx

"Fleetwood"

5p. Sedan...	4095	4	4880	aghlmnprx
5p. Sedan Cab...	4095	4	4880	aghlmnprx
7p. Sedan...	4195	4	4935	aghlmnprx
7p. Sedan Cab...	4195	4	4935	aghlmnprx
5p. Imperial...	4245	4	4935	aghlmnprx
5p. Imperial Cab...	4245	4	4935	aghlmnprx
7p. Imperial...	4445	4	5065	aghlmnprx
7p. Imperial Cab...	4445	4	5065	aghlmnprx
...Town Cab Con...	5000	4	5065	aghlmnprx
...Town Cab Con...	5000	4	5065	aghlmnprx
...LimBro'm Con...	5500	4	5065	aghlmnprx

CHANDLER

"Big Six"

7p. Touring...	\$1695	4	3360	hmnw
5p. Met. Sedan...	1495	4	3570	ahjmmu
4p. Coupe...	1675	2	3435	ahmn
3p. Ctry. Club...	1675	2	3435	ahmn
5p. Met. DeL. Sed.	1595	4	3570	ahmntv
7p. Sedan DeL...	1795	4	3725	ahmntv
5p. Royal Sed...	1795	4	3645	ahmntv

"Spec. Six"

5p. Touring...	995	4	2475	ah
5p. Sportster...	1145	4	2650	ahw
5p. Sedan...	995	4	2685	ah
3p. Coupe...	1035	2	2620	ah
2-4p. Coupe...	1135	2	2650	ah
5p. DeL. Sedan...	1135	4	2695	ah
5p. DeL. Coupe...	1125	2	2620	ah
2-4p. DeL. Coupe...	1235	2	2750	ah

"Roy. St. 8"

7p. Touring...	1995	4	3645	ahjmmw
4p. Coupe...	1995	2	3610	ahmnoptx
4p. Ctry. Club...	1995	2	3610	ahmnoptx
5p. Sedan...	1995	4	3760	ahmnoptx
7p. Sedan...	2095	4	3870	ahmnoptx
5p. DeL. Sedan...	2195	4	3870	Bhptx

CHEVROLET

"AA"

2p. Roadster...	\$ 525	2	1890	dr
5p. Touring...	525	4	1965	dr
2p. Util. Cpe...	625	2	2090	dhr
5p. Coach...	595	2	2190	dhr
5p. Sedan...	695	4	2275	dhr
2-4p. Cabriolet...	715	2	2135	dhr
5p. Imp. Land...	745	4	2290	dhu

Passengers and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
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CHRYSLER "52"				
5p. Touring...	\$ 750	4	2130	ar
2-4p. Roadster...	725	2	2075	ar
2p. Club Coupe...	725	2	2205	ar
5p. Sedan...	735	2	2300	ar
5p. Sedan...	795	4	2375	ar
2-4p. DeL. Coupe...	795	2	2240	ah
5p. De L. Sedan...	875	4	2375	ahr

"62"				
5p. Touring...	1095	4	2740	aghr
2-4p. Roadster...	1175	2	2705	aghrnw
2p. Bus Coupe...	1125	2	2780	aghr
5p. Sedan...	1145	2	2855	aghr
5p. Sedan...	1245	4	2905	aghr
2-4p. Coupe...	1245	2	2855	aghr
5p. Land. Sedan...	1295	2	2940	aghr

"72"				
2-4p. Roadster...	1495	2	3005	aghlmnprx
2-4p. Sp. Rdstr...	1525	2	3005	aghlmnprx
4p. Coupe...	1595	2	3160	aghlmnprx
2-4p. Coupe...	1545	2	3130	aghlmnprx
5p. Roy. Sedan...	1595	4	3225	aghlmnprx
5p. Town Sedan...	1595	4	3270	aghlmnprx
2-4p. Con't Coupe...	1745	2	3100	aghlmnprx
5p. Crown Sedan...	1745	4	3235	aghlmnprx

Imv. "83"				
2-4p. Roadster...	2795	2	4185	aghlmnprx
5p. Sedan...	2 45	4	4185	aghlmnprx
7p. Sedan...	30 5	4	4185	aghlmnprx
5p. Town Sedan...	2 95	4	4140	aghlmnprx
7p. Sedan Lim...	3495	4	4285	aghlmnprx

CUNNINGHAM

"V-7"

7p. Touring...	\$6650	4	4600	Ceghijklmnp
4p. Sp. Touring...	6150	4	4500	Ceghijklmnp
4p. Coupe...	7600	2	4700	Ceghijklmnp
6p. Limousine...	8100	4	5000	Ceghijklmnp

DAVIS "99-28"

4p. Polo Rdster...	\$1885	2	3095	agbmnr
5p. Touring...	1885	4	3125	agbmnr
4p. Coupe...	1885	2	3145	agbmnr
5p. Emp. Sedan...	1885	4	3275	agbmnr

DIANA "St. 8"

5p. Phaeton...	\$1695	4	3100	agmn
5p. Roy. Roadster...	1795	2	2995	agmnw
5p. P.B. Rdstr...	1895	2	2995	agmnw
5p. Cab. Rdstr...	1995	2	3160	agmnw
5p. Cab Rdstr...	2295	2	3160	agmnw
5p. 4d. Sedan...	2095	4	3275	agmnw
5p. 2d. Sedan...	1795	2	3170	agmnw

135" W.B.

7p. Touring...	1795	4	3336	agmn
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DODGE BROS.

"124"

5p. Touring...	\$795	4	2581	Ar
2p. Roadster...	795	2	2454	Ar
2p. Sp. Roadster...	845	2	2530	Der
5p. Sp. Touring...	845	4	2679	Der
"128"				
5p. Sedan...	875	4	2600	Aehr
5p. DeL. Sedan...	975	4	2609	Aehrt
2p. Coupe...	855	2	2428	Aehrt
4p. Cab. Rdstr...	955	2	2463	Behr

Passengers and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
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"Senior"				
4p. Cab. Rdstr...	1595	2	3353	Cehmnrxt
5p. Sedan...	1495	4	3353	Cehmnrxt
5p. Sedan...	1595	4	3412	Cehmnrxt
4p. Coupe...	1570	2	3315	Cehmnrxt

du PONT "E"

4p. Roadster...	\$2800	2	3700	aghlmnprx
5p. Touring...	2800	4	3850	aghlmnprx
4p. Coupe...	3200	2	3850	aghlmnprx
5p. Sedan...	3400	4	4100	aghlmnprx
5p. Con. Sedan...	3750	4	4100	Bighikmnp

ELCAR "6-70"

5-7p. Touring...	\$1275	2	2580	ahjmmr
4p. Land. Rdstr...	1375	2	2580	ahjmmr
4p. Brougham...	1295	2	2670	ahjmmr
5p. Sedan...	1295	4	2750	

"8-78"

4p. Roadster...	1395	2	2580	ahjmmr
5p. Touring...	1395	4	2580	ahjmmr
4p. Coupe...	1395	2	2580	ahjmmr
5p. Sedan...	1395	4	2580	ahjmmr

"8-82"

5-7p. Touring...	1645	2	2580	ahjmmr
2-4p. Roadster...	1770	2	2580	ahjmmr
5p. Brougham...	1595	2	2670	ahjmmr
5p. Sedan...	1645	4	2750	ahjmmr

"8-90"

7p. Touring...	2465	4	3675	aghlmnprx
4p. Land. Rdstr...	2195	2	3620	aghlmnprx
5p. Brougham...	2195	2	3710	aghlmnprx
5p. Sedan...	2265	4	3710	aghlmnprx
5p. Sedan...	2465	4	3895	aghlmnprx
7p. Sedan...	2565	4	4245	aghlmnprx

ERSKINE "6"

5p. Tourer...	\$915	4	2300	agbmnr
4p. Spt. Rdstr...	965	2	2305	Beghnr
2p. Bus. Coupe...	895	2	2265	agbmnr
4p. Spt. Coupe...	965	2	2330	agbmnr
5p. Sedan, 4d...	965	4	2425	agbmnr

ESSEX

"Super Six"

2p. Speedabout...	\$700	2	2115	ahmnr
4p. Speedster...	835	4	2230	ahmnr
2p. Coupe, cloth...	735	2	2330	ahmnr
2p. Coupe, leather...	750	2	2330	ahmnr
5p. Coach...	735	2	2450	ahmnr
5p. Sedan...	835	4	2490	ahmnr

Prices, Weights and Equipment of Current Passenger Car Models

Passenger and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
FORD "A"				
2-4p. Roadster....	\$ 385	4		Beghnmr
5p. Phaeton.....	395	4		Beghnr
2p. Coupe.....	495	2		Beghnr
2-4p. Spt. Coupe..	550	2		Beghnr
5p. Tudor Sedan..	495	2		Beghnr
5p. Fordor Sedan.	570	4		Beghnr
FRANKLIN				
"Series 12"				
119" W.B.				
3p. Coupe.....	\$2490		an	
4p. Victoria.....	2740		an	
5p. Sedan.....	2790	3600	an	
5p. Ox. Sedan....	2815		an	
5p. Spt. Sedan....	2910		an	
3-5p. Con't Cpe.	2925		an	
128" W.B.				
2-4p. Sp. Runab't	2975		an	
5p. Sp. Touring..	2975		an	
7p. Touring.....	3060		an	
7p. Sedan.....	2980	3800	an	
7p. Ox. Sedan....	3015		an	
7p. Limousine...	3080		an	
GARDNER				
"75"				
4p. Roadster....	\$1195	2	2995	aeghnmr
4p. Vic. Coupe...	1295	2	3290	aeghlmnr
5p. Sp. Coupe....	1295	2	3290	aeghlmnr
5p. Club Sedan..	1390	4	3265	aeghnmr
Club Sed. DeL.	1495			
DeL. Sedan....	1595			eghmn
"85"				
4p. Roadster....	\$1695	2	3030	Aeghnmr
5p. Brougham...	18 5	4	3360	Aeghnmr
5p. Sedan.....	1895	4	3380	Aeghnmr
Cus. Coupe....	2095			
"90"				
Roadster.....	2095			
5p. Brougham...	22 5	4	3690	Deghlmnrx
5p. Sedan.....	2 95	4	3730	Deghlmrtx
Cus. Coupe....	2495			
HUDSON				
"Super Six"				
"Std. Line"				
5p. Coach.....	\$1285	2	3555	aghnjmr
5p. Sedan.....	1385	4	3670	aghnjmr
"Custom"				
7p. Phaeton.....	1600	4	3645	agnmr
4p. Brougham...	1575	4	3775	aghnjmr
7p. Sedan.....	1850	4	3945	aghnjmr
"S"				
5p. Coach.....	1175	2	3510	aghnjmr
5. Sedan.....	1285	4	3590	aghnjmr
HUPMOBILE				
"A"				
4p. Roadster....	\$1335	2		aghn
7p. Phaeton....	1395	4		aghn
5p. Sedan 2d....	1345	2		aghn
4p. Coupe.....	1385	2		aghn
5p. Sedan.....	1395	4		aghn
"E-3"				
5p. Touring.....	1795	4	3300	aghn
7p. Touring.....	1895	4	3360	aghn
2-4p. Roadster..	1895	2	3355	aghn
5p. Brougham...	2095	2	3355	aghn
2-4p. Coupe....	2195	2	3355	aghn
5p. Sedan.....	2195	4	3545	aghn
5p. Victoria....	2195	2	3525	aghn
7p. Sedan.....	2345	4	3360	ehr
7p. Sedan Lim..	2520	4	3360	aghn
JORDAN				
"R"				
4p. Blue Boy....	\$1745	4	2800	Beghkmrx
4p. Spt. Salon..	1595	2	2775	aghnjmr
2-4p. Tomboy...	1595	2	2650	aghnjmr
5p. Sedan.....	1595	4	2775	aghnjmr
"J-1"				
4p. Playboy.....	1545	2	2915	aghnmx
2-4p. Sp. Coupe..	1695	2	3070	aghnmx
5p. Cus. Sedan....	1695	4	3200	aghnmxrtx
4p. Cus. Viet....	1695	2	3200	aghnmxrtx
"JE"				
4p. Collap. Coupe	2195	2	3185	aghnmx
4p. Perm. Coupe..	2195	2	3185	aghnmx
5p. Victoria.....	2195	2	3275	aghnmxrtx
5. Sedan.....	2195	4	3300	aghnmxrtx
KISSEL "6-55"				
124" W.B.				
5p. Phaeton.....	\$1685	4	3020	ahmnr
4p. Speedster....	1895	2	3160	ah
4p. Coupe Rdstr..	1895	2	3483	ahmnr
5p. Spec. Bro'm..	1795	2	3486	ah
5p. Bro'm Sedan..	1895	4	3440	ah
5p. Conv. Bro'm..	2295	4	3378	
131" W.B.				
7p. Touring.....	1785	4	3660	ah
4p. Tourster....	1895	4	3225	ahmnr
5p. Br'm Sedan..	2065	4	3596	ah
7p. Sedan.....	2295	4	3770	ahmnr
"6-70"				
4p. Cpe. Roadster	1595	2	2915	ahmnr
5p. Bro'm Sedan..	1495	4	3065	ahmnr
"8-80"				
125" W.B.				
5p. Phaeton.....	1885	4	3240	ahmnr
4p. Speedster....	2095	2	3155	ahmnr
4p. Cp. Rdstr....	2095	2	3343	ahmnr
5p. Spec. Bro'm..	1995	2	3345	ahmnr
5p. Bro'm Sedan..	2095	4	3400	ahmnr
5p. Conv. Bro'm..	2495	4	3518	ahmnr
132" W.B.				
7p. Touring.....	1985	4	3360	ahmnr
4p. Tourster....	2095	4	3155	ahmnr
5p. Bro'm Sedan..	2295	4	3455	ahmnr
7p. Sedan.....	2495	4	3630	ahmnr
"8-90"				
131" W.B.				
5p. Phaeton.....	2185	4	3220	ahmnr
4p. Speedster....	2395	2	3360	ahmnr
4p. Cpe. Rdstr..	2395	2	3578	ahmnr
5p. Spec. Bro'm..	2295	2	3671	ahmnr
5p. Bro'm Sedan..	2395	4	3760	ahmnr
5p. Conv. Bro'm..	2795	4	3863	ahmnr
139" W.B.				
7p. Touring.....	2285	4	3630	ahmnr
4p. Tourster....	2395	4	3335	ahmnr
5p. Bro'm Sedan..	2595	4	3755	ahmnr
7p. Sedan.....	2795	4	3975	ahmnr
5p. Sedan DeL....	2985	4	3910	aghnmxrtx
7p. Sedan DeL....	3495	4	4080	aghnmxrtx
7p. Ber. Sedan...	3585	4	4125	aghnmxrtx
LA SALLE				
125" W.B.				
2-4p. Roadster....	\$2525	2	3665	aeghlmnrpx
5p. Phaeton.....	2495	4	3680	aeghlmnrpx
4p. Sp. Phaeton..	2995	4	4060	Beghkmnp
2-4p. Coupe....				
2-4p. Conv. Cpe.	2635	2	3875	aeghlmnrpx
4p. Victoria.....	2635	2	3895	aeghlmnrpx
5p. Town Sedan..	2650	4	3975	aeghlmnrpx
5p. Sedan.....	2685	4	4000	aeghlmnrpx
2p. Coupe.....	3800	2		aeghlmnrpx
5p. Town Cab....	4500	4		aeghlmnrpx
5p. Trans. Cab..	4700	4		
134" W.B.				
7p. Sedan.....	2795	4	4400	aeghlmnrpx
5p. Imp. Sedan..	2795	4	4315	aeghlmnrpx
7p. Imp. Sedan..	2895	4		aeghlmnrpx
LINCOLN				
"8"				
2p. Spt. Rdstr..	\$4600	2	4930	aegklprx
2-4p. Club Rdstr.	4600		5010	aegklprx
7p. Spt. Touring..	4600	4	4940	aegklprx
4p. Snt. Phaeton..	4600	4	4910	begklprwx
4p. Coupe.....	4600	2	4805	aegklprx
5p. Sedan.....	4800	4	4930	aegklprx
5p. Sedan.....	4800	4	5010	aegklprx
2p. Coupe.....	5000		4720	aegklprx
7p. Sedan.....	5000	4	5050	aegklprx
7p. Limousine...	5200	4	5165	aegklprx
4p. Berline.....				
4p. Berline.....	\$5500	5	5115	aeghklprx
7p. Limousine...	6000	5	5380	aeghklprx
7p. Brougham...	6400	5	5025	aeghklprx
6p. Ber. Landau..	6500	5		aeghklprx
7p. Cabriolet....	6600	5	5160	aeghklprx
7p. Le Baron Cab.	7000	5	5200	aeghklprx
7p. Holbrook Cab.	7200	5	5280	aeghklprx
7p. Collap. Cab..	7300	5	5140	aeghklprx
LOCOMOBILE				
"8-70"				
5p. Brougham...	\$1975	4	3525	afghkmnrx
5p. Sedan.....	1975	4	3575	afghkmnrx
4p. Collap. C'pe..	2100	2	3434	afghkmnrx
"8-80"				
4p. Spt. Touring..	2850		3972	aeghklmnrpt
4p. Coupe.....				
4p. Coupe.....	2975	2		
4p. Collap. Coupe	3000	2	3780	aeghklmnrpt
5p. Sedan.....				
5p. Sedan.....	2850	4	3950	aeghklmnrpt
5. Brougham...				
5. Brougham...	2900	4	3990	aeghklmnrpt
7p. Sedan.....				
7p. Sedan.....	3350	4	4140	aeghklmnrpt
7p. Sub. Sedan...				
7p. Sub. Sedan...	3500	4	4280	aeghklmnrpt
"48"				
4p. Sportif.....		4	5030	afghklrnx
7p. Roadster....				
7p. Roadster....		4	5330	afghklrnx
7p. Tour Lim....		4	5640	afghklrnx
6p. Brougham...		4	5464	afghklrnx
5p. Vic. Sedan....		4	5600	afghklrnx
7p. Lim. Enc. Dr.		4	5868	afghklrnx
7p. Cabriolet....		4	5624	afghklrnx
"90"				
4p. Sportif.....	5900	4	4475	aeghklmnrpt
4p. Roadster....				
4p. Roadster....	5900	2	4370	aeghklmnrpt
7p. Teuring.....				
7p. Teuring.....	6000			aeghklmnrpt
5p. Vic. Sedan...				
5p. Vic. Sedan...	7300	4	4942	afghlmprtx
7p. Suburban...	7500	4	4930	afghlmprtx
4p. Vic. Sed....	7450			aeghklmnrpt
7p. Town Bro'm..				
7p. Town Bro'm..	7500	4	4615	afghlmprtx
7p. Cabriolet....	7500	4	4615	afghlmprtx
Collap. Cab....	7750			aeghklmnrpt
MCFARLAN				
"Str. 8"				
131" W.B.				
4p. Roadster....	\$3050	2	3400	Ceghlmnrpx
5p. Touring.....	2650	4	3400	afghmx
4p. Sp. Phaeton..	3180	4	3400	afghlmnrpx
3p. Coupe.....	3180	2	3650	afghlmnrpx
5p. Sedan.....	3180	4	3650	afghlmnrpx
5p. Coach Bro'm..	3180	4	3650	afghlmnrpx
5p. Town Car....	4600	4	3750	afghlmnrpx
136" W.B.				
7p. Sedan.....	3680	4	3700	afghlmnrpx
7p. Sub. Sedan..	3780	4	3700	afghlmnrpx
"TV"				
2p. Roadster....	5800	2	4000	Aeghilmnrpx
4p. Spt. Tour....	5600	4	4600	Ceghilmnrpx
5p. Tour. Sedan..	6720	4	5200	Cfghilmnrpx
7p. Touring.....				
7p. Touring.....	5700	4	5200	Afghilmnrpx
7p. Sedan.....				
7p. Sedan.....	6720	4		Afghilmnrpx
7p. Sub. Sedan...				
7p. Sub. Sedan...	6920	4		Ceghilmnrpx
4-6p. Town Car..				
4-6p. Town Car..	9000	4	5200	Cfghilmnrpx
"78"				
2p. Roadster....				ahlmnrptx
4p. Speedster....				ahlmnrptx
2-4. Collap. Cpe.				ahlmnrptx
2p. Coupe.....				ahlmnrptx
2p. Coupe.....				ahlmnrptx
5p. Sedan.....				ahlmnrptx
"E-75"				
2p. Speedster....	3485	2	4251	aeghlnprx
4p. Speedster....	3485	2	4256	aeghlnprx
5p. Phaeton.....	3485	4	4017	aeghlnprx
7p. Tour. Speed..	3565	4	4480	aeghlnprx
2p. Coupe Rdstr..	3565	2	4374	aeghlnprx
5p. Town Coupe..	3195	2	4452	aeghlnprx
2p. Coupe.....	3485	2	4373	aeghlnprx
4p. Victoria.....	3485	2	4346	aeghlnprx
5p. Brougham...	3565	4	4525	aeghlnprx
5p. Sedan.....	3565	4	4498	aeghlnprx
7p. Sedan.....	3640	4	4620	aeghlnprx
5p. Cus. Sedan...	3960	4	4515	aeghlnprx
7p. Cus. Sedan...	4075	4	4678	aeghlnprx
7p. Cus. Limou..	4175	4	4718	aeghlnprx
MOON "6-60"				
3p. Roadster....	\$925	2	2295	an
5p. Phaeton.....	995	4	2340	an
3-5p. DeL. Rdstr.	1095	2	2330	dn
3-5p. Roy. Rdstr.	1195	2	2330	anw
3-5p. Roy. Cab..	1295	2	2575	an
3-5p. Cab. Rdstr..	1195	2	2575	dn
5p. Coach.....	1045	2	2420	an
5p. 2d. Sedan....	1145	2	2520	dn
5p. Roy. Sedan...	1195	2	2520	ahin
5p. 4d. Sedan....	1245	4	2605	dn
5p. Roy. Sedan...	1295	4	2605	ahin
5p. Cust. Sedan..	1395	4	2605	ah
"A"				
5p. Touring.....	1195	4	2560	dn
5p. Roy. Rdstr..	1395	2	2600	dn
5p. Collap. Cab..	1795	2		dn
5p. Sedan DeL....	1395	2	2710	dn
5p. Sedan DeL....	1545	4	2860	dn
"6-72"				
5p. Roadster....	1395			aghn
5p. Roy. Cab Rdstr.	1445			aghn
5p. Std. Sedan 2d.	1395	2		aghn
5p. Std. Sedan 4d.	1445	4		aghn
5p. Royal Sedan..	1445	2		aghn
5p. Royal Sedan..	1545	4		aghn
NASH				
"Std. 6"				
5p. Touring.....	\$865	4	2325	Dghnr
2-4p. Conv't Cab.	995	2	2505	Dghnr
2p. Coupe.....	875	2	2345	Dghnr
5p. Sedan.....	895	2	2450	Dghnr
5p. Sedan.....	995	4	2500	Dghnr
5p. Land. Sedan..	1085	4	2610	Dghnr
"Special"				
4p. Roadster....	1225	2	2980	Dghnr
5p. Touring.....	1135	4	2980	Dghnr
2-4p. Cabriolet..	1290	4	3070	Dghnr
2p. Bus. Coupe...	1165	2	3030	Dghnr
5p. Sedan.....	1215	2	3150	Dghnr
4p. Victoria.....	1295	2	3170	Dghnr
5p. Sedan.....	1335	4	3250	Dghnr
5p. Coupe.....	1445	4	3380	Dghnr
"Advanced"				
121" W.B.				
4p. Roadster....	1475	2	3400	Dghmr
5p. Touring.....	1340	4	3400	Dghmr
5p. Sedan.....	1425	2	3620	Dghmr
5p. Sedan.....	1545	4	3650	Dghmr

A—Wood wheels with spare.
a—Wood wheels.
B—Wire wheels with spare.
b—Wire wheels.
C—Optional wheels with spare.
c—Type of wheels optional.

D—Disk wheels with spare.
d—Disk wheels.
E—Front and rear bumpers.
f—Front bumper.
g—Shock absorbers or snubbers.
h—Automatic windshield wiper.

KEY TO SYMBOLS

i—Trunk and trunk rack.
j—Trunk rack, no trunk.
k—Spare tire.
l—Spare tire lock.
m—Engine heat indicator.
n—Dash gasoline gage.

o—Car heater.
p—Cigar lighter.
q—Rear traffic signal.
r—Spotlight.
s—Vanity and smoking set.
t—Smoking set.

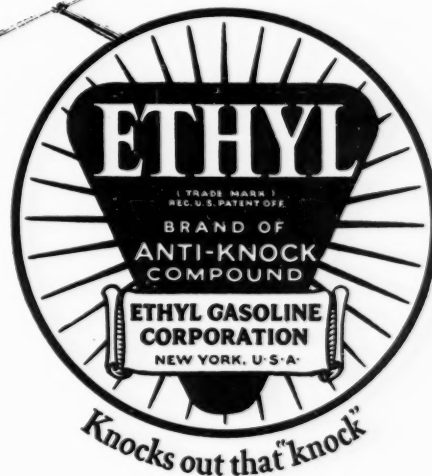
u—Vanity set.
v—Windshield wings.
w—Clock.
x—Overall length.
y—Prices on application.

Passengers and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
OVERLAND				
"4" Whippet				
5p. Touring.....	\$625	4	1985	ag
2-4p. Roadster....	695	2	1930	agh
2p. Coupe.....	625	2	2025	ag
5p. Coach.....	625	2	2075	ag
5p. Sedan.....	725	4	2185	agt
5p. Landau.....	755	4	2230	agh
"6" Whippet				
2-4p. Roadster....	825	2	2225	agh
5p. Touring.....	765	4	2270	agh
2p. Coupe.....	795	2	2305	agh
5p. Coach.....	795	2	2405	agh
5p. Sedan.....	875	4	2440	agh
5p. Landau.....	925	4	2490	aght
PACKARD				
"52"				
4p. Runabout.....	\$2275	2	3620	Deghlmpnx
5p. Phaeton.....	2275	4	3665	Deghlmpnx
5p. Sedan.....	2285	4	4000	Deghlmpnx
2-4p. Coupe.....	2350	2	3950	
4p. Conv't Cpe.....	2425	2	3875	
"53"				
5p. Phaeton.....	2385	4	3745	
4p. Runabout.....	2385	2	3700	
7p. Touring.....	2485	4	3865	Deghlmpnx
4p. Coupe.....	2685	2	4000	dghint
5p. Club Sedan.....	2685	4	4085	Deghlmpnx
7p. Sedan.....	2685	4	4145	Deghlmpnx
7p. Sedan Lim.....	2785	4	4205	Deghlmpnx
"443"				
4p. Runabout.....	3975	2	4350	Djk
5p. Phaeton.....	3975	4	4370	Djk
7p. Touring.....	4050	4	4410	Deghlkmpn
4p. Coupe.....	4950	2	4635	Djk
5p. Club Sedan.....	4950	4	4710	Deghljklmnp
7p. Sedan.....	5150	4	4820	Deghlkmpn
7p. Sedan Lim.....	5250	4	4860	Deghlkmpn
PAIGE "6-45"				
2p. Coupe.....	\$1095	2	2525	aghn
4p. Cab. Rdstr.....	1195	2	2615	aghn
5p. Brougham.....	1095	2	2660	aghn
5p. Sedan.....	1195	4	2760	aghn
"6-45A"				
5p. Brougham.....	995	2	2525	aghn
5p. Sedan.....	1095	4	2760	aghn
"6-65"				
4p. Roadster.....	1395	2	3055	aghnprx
5p. Brougham.....	1395	2	3215	aghn
5p. Land. Bro'm.....	1395	2	3115	aghn
5p. Sedan.....	1495	4	3280	aghnprx
"6-75"				
7p. Touring.....	1655	4	3420	aghnprx
4p. Cab. Rdstr.....	1895	2	2540	deghlmpnx
5p. Sedan.....	1695	4	3550	deghlmpnx
4p. Coupe.....	1895	2	3550	deghlmpnx
7p. Sedan.....	1895	4	3765	deghlmpnx
7p. Limousine.....	2145	4	3805	dghmrtx
"8-85"				
7p. Touring.....	2195	4	3570	aghnprx
5p. Sedan.....	2255	4	3700	aghnprx
4p. Coupe.....	2495	2	3700	aghnprx
4p. Cabriolet.....	2495	2	3690	aghnprx
7p. Sedan.....	2525	4	3910	aghnprx
7p. Limousine.....	2665	4	3950	aghnprx
PEERLESS				
"6-60"				
2-4p. Roadster.....	\$1295	2	2600	deghlmpn
2-4p. C'pe Rdstr.....	1345	4	2725	deghlmpn
5p. Sedan.....	1345	4	2895	deghlmpn
"6-72"				
126 $\frac{1}{2}$ " W.B.				
5p. Coupe.....	2295	2	3400	aeghlmpntx
5p. Sedan.....	2395	4	3475	aeghlmpntx
133 $\frac{3}{4}$ " W.B.				
7p. Phaeton.....	1995	4	3175	aeghlmpnr
2-4p. Roadster.....	2195	2	3300	aeghlmpnrwx
7p. Sedan.....	2595	4	3675	aeghlmpntx
PONTIAC "6"				
2-4p. Roadster.....	\$745	2	2160	ah
2p. Coupe.....	745	2	2275	ah
5p. 2d. Sedan.....	745	2	2375	ah
4p. Sport Cab.....	795	2	2345	ah
5p. Land. Sedan.....	845	4	2460	ah
5p. DeL. Landau.....	925	4	2510	aeh
PONTIAC "6"				
2-4p. Roadster.....	\$745	2	2160	ah
2p. Coupe.....	745	2	2275	ah
5p. 2d. Sedan.....	745	2	2375	ah
4p. Sport Cab.....	795	2	2345	ah
5p. Land. Sedan.....	845	4		

v—Vanity set.
w—Windshield wings
x—Clock.
*—Overall length
§—Prices on application

Technical Specifications of Current Passenger Car Models

[illegible]



Ethyl is best for *cold* weather, *too*

Your car needs Ethyl Gasoline this winter.

You need Ethyl's *extra* power to negotiate roads that are muddy and snowy and slushy . . . to keep in high and get away faster in winter traffic . . . to reduce engine strain . . . and, most of all, to "knock out that 'knock'."

The ingredient in Ethyl Gasoline—tetraethyl lead—which made Ethyl the best summer fuel makes it best for cold weather too. *It's the superior high-*

compression fuel for all seasons. And if you are driving one of the new high compression engines, Ethyl will give you a still greater thrill.

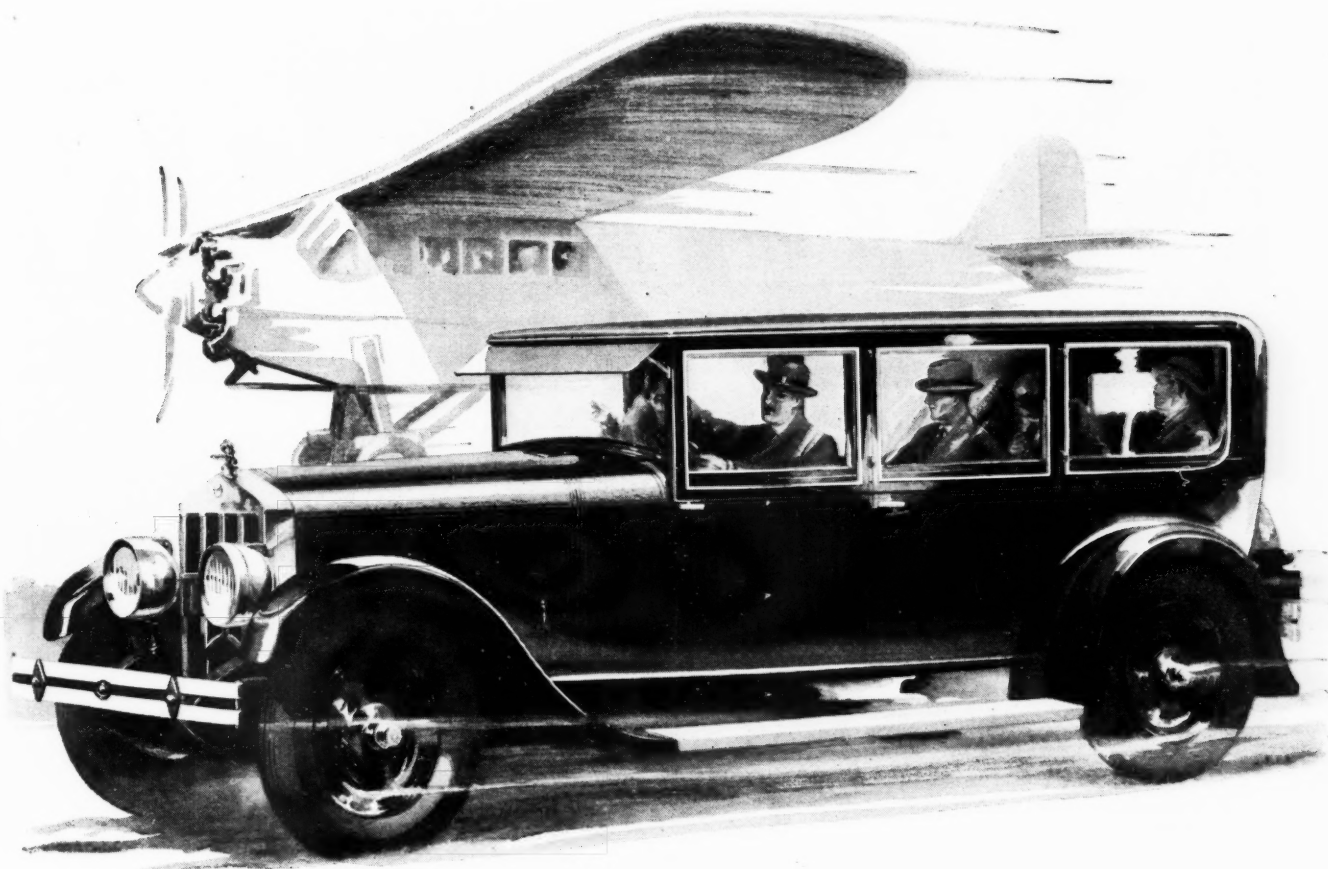
Ride with Ethyl the year round. This improved motor fuel is on sale at thousands of pumps throughout the United States and Canada which display the "ETHYL" emblem shown above. Fill your tank today.

ETHYL GASOLINE CORPORATION
25 Broadway, New York City

ETHYL GASOLINE

Mechanical Specifications of Current Passenger Car Models—Continued

MAKE AND MODEL			ENGINE										ELECTRICAL SYSTEM		REAR AXLE		BRAKES		STEERING GEAR—MAKE		CHASSIS LUBRICATION—Type and Make		ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS							
Wheel Base (Inches)	Tire Size	Decimals-Balance	Model	Number of Cyls.	Rated H.P.	Valve Arrangement	Camshaft Drive	Piston Material	No. Main Bear.	Crankshaft Vib.	Oiling System	Oil Cleaner	Cooling System	Thermolite	Shut-off	Carburetor	Air Cleaner	Ignition System	Generator and Starter Make	Clutch—Type and Make	Gear Set—Make	Universal—Type and Make	Type and Make	Gear Ratio	Foot—Type and Location	Hand—Type and Location	Wheel Type	Length		
122	31x8 00	122	Cont. Spec.	8-27x44x4	26.4	247	1	Ch.	Al.	5	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.77	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
130	32x8 00	130	Lyc. Spec.	8-31x44x4	38.4	299	1	Ch.	Al.	7	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.81	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
142	33x8 75	142	Lyc. Spec.	8-31x44x4	48.4	329	1	Ch.	Al.	7	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.85	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
138	33x6 75	138	Own.	8-37x43x4	36.0	372	1	Ch.	Al.	7	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.90	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
130	32x6 75	130	Own.	8-31x43x4	27.6	216	1	Ch.	Al.	5	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.90	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
138	32x6 75	138	Own.	8-31x43x4	27.6	216	1	Ch.	Al.	5	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.90	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
130	32x6 75	130	Own.	8-31x43x4	27.6	216	1	Ch.	Al.	5	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.90	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
138	32x6 75	138	Own.	8-31x43x4	27.6	216	1	Ch.	Al.	5	Y	Y	Y	Y	N	Sch.	Str.	D-R.	D-R.	P.B.&B.	Det.	m-Spi.	1/4	4.90	L-F	L-R	M	Ross.	Pr-Ze	A-Ros
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The Airman

has opened the door of greater success for dealers

IN less than three months the Franklin Airman—America's first aviation-type motor car has been introduced, accepted, acclaimed and enthusiastically purchased throughout the country.

The fine performance of air-cooled motors in recent trans-Atlantic and long distance flights, and the national acceptance of air-cooling for aircraft have made a definite and favorable impression upon fine car buyers. They are turning to Franklin.

Franklin always has had a good proportion of

fine car sales—always has been a steady repeater—always has had exclusive features—always has been a profitable franchise. *But now*—new Airman features and principles are revolutionizing the whole fine car field. Dealers can now realize sales and profits in the Franklin franchise far exceeding past high records.

Do not hesitate in investigating fully what Franklin *now* offers. It may be just what you are looking for—just the fine car franchise you need in your line to be completely successful.

FRANKLIN AUTOMOBILE COMPANY, SYRACUSE, NEW YORK

FRANKLIN

Airman Series

SHERWIN-PAINTS VARNISHES

If you want—

- 1 A hard, tough, but not brittle film that is wear, water and weather proof;
- 2 A natural gloss which can be brought to a high lustre with the lowest labor cost;
- 3 Exceptional covering capacity with a minimum material cost;
- 4 An even flow and smooth surface free of bubbles, orange peel or blushing;
- 5 Fast lacquer enamels and colorless clears;
- 6 Uniformity of consistency, weight and shade;
- 7 No residual odor or toxic fumes;

You will use

OPEX

*the perfected
lacquer enamel*



Trade-mark registered



LARGEST IN

WILLIAMS

LACQUERS · ENAMELS



Get them off the floor and into profits—by using Opex Utility Black

Just as long as human nature stays human, the *finish* of a used car—and not its mechanical condition—will remain the gauge of its value.

To get your money out of used cars—and into the bank—try Opex Utility Black; a handsome high gloss finish made expressly for quick paint jobs right over the old finish of the used car.

This newly developed product meets the demand for a cheaper lacquer, without sacrificing good working qualities—the sacrifice that makes most cheap lacquers expensive in actual

practice. Naturally it does not possess the durability of the finer line of Opex Lacquers, but it is more durable than most lacquers intended for quick paint jobs.

Utility Black is supplied ready to spray and it has excellent covering and filling qualities. It has a high gloss that does not require polishing and, although ready for use, will not settle out hard in the package.

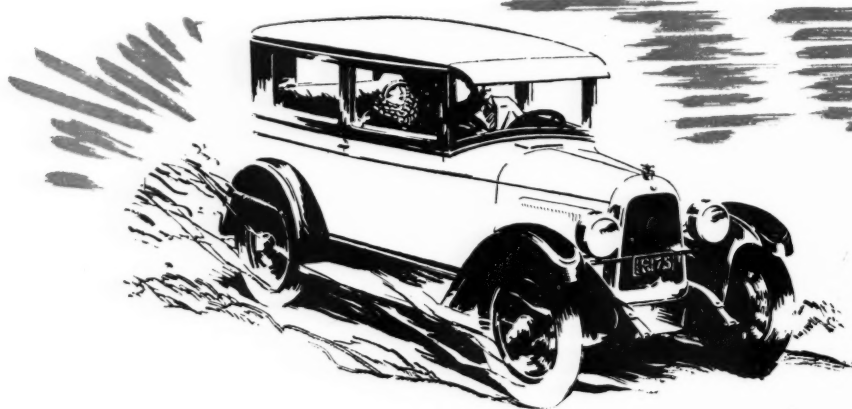
Ask for complete details regarding this and other Opex products.

THE SHERWIN-WILLIAMS Co.
Cleveland, Ohio

The Sherwin-Williams Co.
420 Canal Road, N. W., Cleveland, Ohio
Please send facts about Opex Utility Black and other
Opex Lacquers.
Name Address Business

THE WORLD

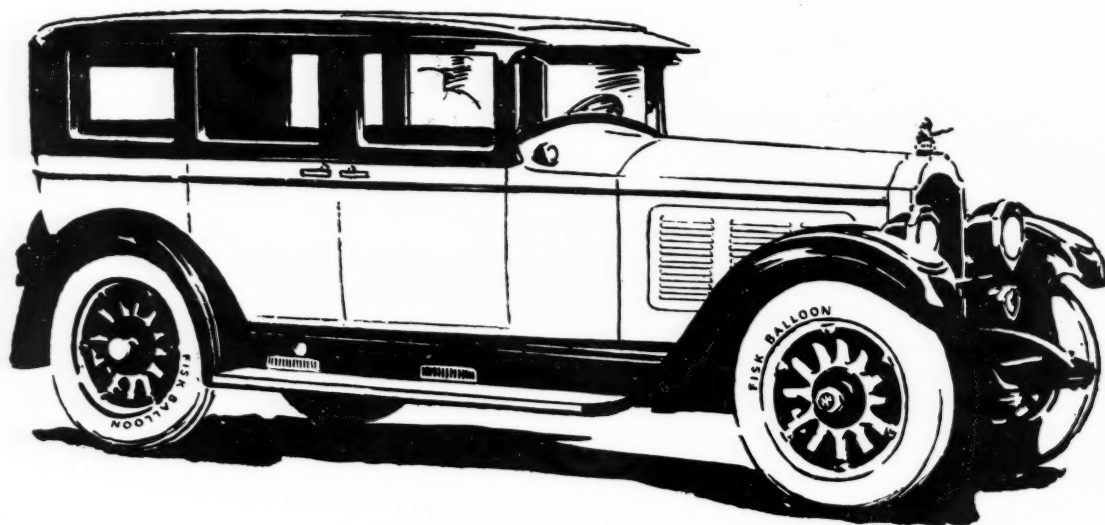
Exclusive



SETTING new high standards, the great Willys-Overland line offers far greater opportunities for pro-

fit in 1928 than ever before. *In every price class* it affords cars of outstanding value—with exclusive features and many new improvements. The Willys-Knight line includes two remarkable Sixes, the “70” Six and the Great Six, ranging from \$1295 to \$2695. Faster, smoother, smarter, more powerful than ever, these brilliant cars, in new color harmonies, will sell in greater volume than ever.

In the light car field, the perfected Whippet, ranging from \$625 to \$755, has clearly proved its outstanding superiority under every conceivable test, and opens the way to volume sales in this, the largest single field.



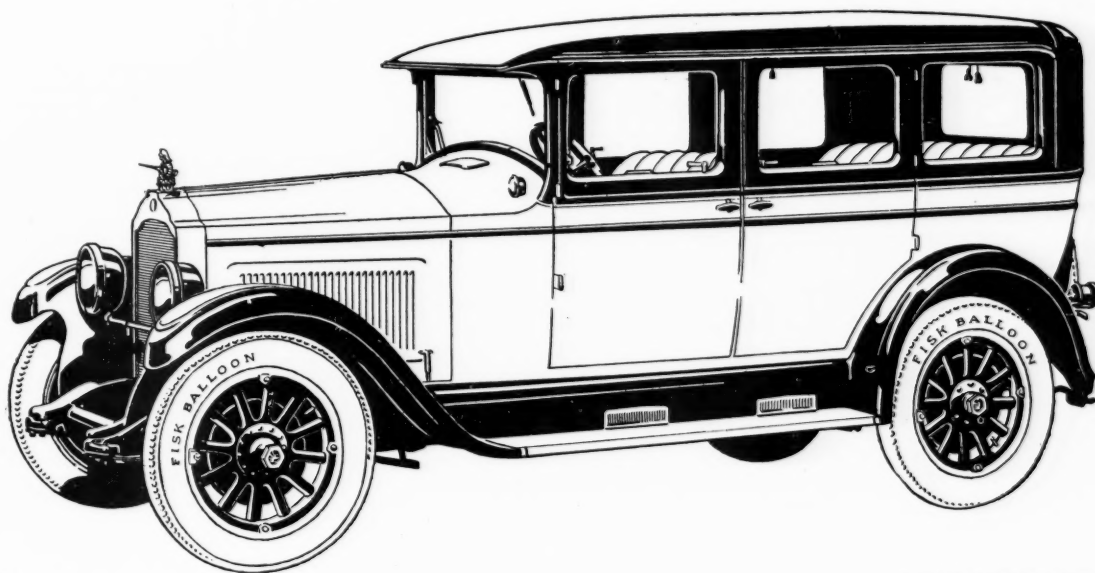
WILLYS-KNIGHT

Selling Advantages *in the* Great Willys-Overland Line for 1928

EXCLUSIVE features—which improve performance and make for trouble-free operation—are among the advantages which make it more profitable to sell these cars.

The patented Willys-Knight sleeve-valve engine gives greater silence and smoothness. The noise in the ordinary engine is caused by the action of the poppet-valve mechanism. In the Willys-Knight this source of noise is eliminated—two metal sleeves sliding silently, one within the other, in a bath of oil. The engine is simpler—with fewer parts; less of the ordinary adjustments—no valve-grinding, carbon removal or adjustment of valve tappets. Due to Belflex shackles, which *deadens chassis noises*, there are no shackles to tighten, replace or lubricate. Service is far less of a problem to owner and dealer.

These are exclusive advantages which, if properly merchandized, will prove highly profitable in 1928—*advantages no competitor enjoys*. It will pay you now to get full particulars. Write to Willys-Overland Inc., Toledo, Ohio; Willys-Overland Sales Co., Ltd., Toronto, Canada.



W H I P P E T — **FINE** —
MOTOR CARS

Wholesale Automotive Distribution

Automotive Wholesale Outlets

First, Second and Third line cities where important groups of manufacturers have established and maintain wholesalers who function for the advantage of approximately 100,000 automotive retail outlets. Basis of arriving at relative importance of cities is explained on page eleven.

State	Line	City	Car Dealers	Repair Shops	Population
Alabama	1st Line Cities	Birmingham	36	197	178,270
		Montgomery	19	10	45,464
		Mobile	13	31	85,000
	2nd Line Cities	Anniston	11	5	17,734
		Bessemer	11	10	18,674
		Dothan	7	5	10,034
	3rd Line Cities	Prichard	7	10	15,689
		Phenix Lake	7	6	11,906
		Tuscaloosa			
Arizona	1st Line Cities	Phoenix	24	30	46,000
		Tucson	13	25	25,000
		Kingman	7	1	2,000
	2nd Line Cities	Flagstaff	8	4	7,500
		Yuma			
	3rd Line Cities	Prescott	23	27	64,997
		Chandler	11	20	25,811
		Glendale	15	9	25,000
		Scottsdale	12	15	3,225
Arkansas	1st Line Cities	Little Rock	15	20	11,695
		Fort Smith	12	15	10,280
		Springdale	3	1	4,000
	2nd Line Cities	Hot Springs	15	9	25,000
		El Dorado	12	15	11,695
		Texarkana	12	15	10,280
	3rd Line Cities	Walmart	3	1	4,000
California	1st Line Cities	Los Angeles	190	508	1,265,519
		San Francisco	97	245	839,628
		San Diego	27	60	54,996
	2nd Line Cities	Fresno	14	168	233,270
		Oakland	36	74	100,000
		Stockton	29	120	140,420
	3rd Line Cities	Modesto	23	46	44,897
		Merced	16	7	9,500
		Yuba City	16	32	22,000
		Visalia	12	17	6,023
Texas	1st Line Cities	Houston	11	9	11,332
		Dallas	25	28	1,000
		San Antonio	11	12	4,008
	2nd Line Cities	Fort Worth	18	12	67,600
		El Paso	12	18	100,000
		San Marcos	12	18	11,118
	3rd Line Cities	Corpus Christi	14	5	5,461
		San Antonio	27	12	5,479
		San Antonio	17	13	8,757
		San Antonio	9	48	2,340
New Mexico	1st Line Cities	Albuquerque	18	13	45,000
		Santa Fe	13	13	15,500
		Las Alamos	13	13	8,000
	2nd Line Cities	Las Alamos	13	13	8,000
		Las Alamos	13	13	8,000
		Las Alamos	13	13	8,000
	3rd Line Cities	Las Alamos	13	13	8,000
		Las Alamos	13	13	8,000
		Las Alamos	13	13	8,000
		Las Alamos	13	13	8,000

NOTE: Dealer, Registration and Population statistics herein are taken from the CITIES AND TRADE ZONES, which gives a complete presentation of the whole territory with respect to dealers, repair shops, service stations, products handled, population, etc.

A Gold Mine of Marketing Data

- if you have a problem in automotive marketing
- if you need more or better dealers
- if you want to avoid needless cost and lost motion

—you will want, for your personal use and advantage, a copy of the book which is illustrated above.

It shows, among other things, how important changes are occurring in distribution practices—the result of changing buying habits by trade and consumer, and how the industry is gearing up to meet these changes.

Authoritative

It presents an outline map of the United States upon which is indicated 643 First, Second and Third line wholesale distribution points, followed by a break-down of all States with a complete listing, by groups, of these First, Second and Third line centers; car dealers and independent service stations in each center, populations, etc.

In another section it presents "The Romance of a Great Industry"—sixteen pages of vital statistics which will prove of high value to any student of successful and economical automotive marketing.

■ ■ ■

A copy of this beautifully bound volume, with its wealth of authoritative automotive marketing data, will be sent, with our compliments, to manufacturers, or advertising agencies handling automotive accounts.

■ ■ ■

Come to Automotive Headquarters

Within our organization are men who have had years of successful contact with the industry and its merchandising phases—men who have enjoyed the full confidence of manufacturers whose sales policies have carried them forward to positions of high success.

■ ■ ■

Our experience, backed by unusual facilities for practical market analyses, industrial and trade research, seasoned counsel and sincere cooperation to the end of increased volume, with correspondingly increased profits, is at the instant disposal of automotive manufacturers and advertising agencies.

■ ■ ■

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PHILADELPHIA

Publishers of Automotive Business Papers

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CHILTON CATALOG & DIRECTORY
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Creating New Profit



Opportunity for You

THE permanent and solid establishment of Thompson Valves in the replacement field, in less than three years, has created a brand new source of profit for all who service motor vehicles.

Thompson original equipment reputation, Thompson quality, the Thompson Triple Selling Plan, and Thompson advertising have put one more important replacement part on a ready-sale basis for you.

The continuance of your much-valued cooperation is already making Thompson Bolts another profit winner for the repair man.

We and our jobbers extend to you all our best wishes for a Merry Christmas and our promise to give you still more service and cooperation in 1928. Our slogan for the New Year is, "More profit in parts for the repairman."

THOMPSON PRODUCTS, INCORPORATED

Branch Offices: Cleveland, Ohio, U. S. A.

Factories: CLEVELAND and DETROIT

Thompson Valves

Compare Car Washers— when you compare prices

Manley Auto Washers are built for continuous, trouble-free operation and are not compromised with price considerations.

*Check these Manley features
then compare prices*

MANLEY FEATURES	Checking Column for Other Makes	MANLEY FEATURES	Checking Column for Other Makes
325 LBS. PRESSURE. The Manley Auto Washer operates at 325 lbs. pressure instead of 275 or 300, as is common practice. This high pressure means a finer mist and a more powerful cutting stream.		AUTOMATIC CONTROL VALVE —simple and sturdy in construction. This valve unloads pump so that there is no load when starting. It also unloads pump when guns are not in actual use, saving electricity and prolonging the life of the entire machine.	
DISPLACEMENT TYPE PUMP —no leather washers. Leather washers cannot be made to stand up under high pressure and, where used, must be frequently replaced.		SAFETY VALVE. Each Manley Auto Washer is equipped with a locomotive type safety valve as a final safeguard.	
SILENT CHAIN DRIVE (not bicycle chain nor belt drive, but Silent Chain, same as used in practically all automobiles for timing gear drive).		EFFICIENT GUNS. Manley Auto Washers are equipped with adjustable nozzles of expensive construction. This important detail should not be overlooked, as the efficiency of a high grade car washer can be greatly cut down by the use of poorly designed and cheaply constructed guns.	
SLOW SPEED PUMP. Every one knows that the faster you drive a piece of machinery the quicker it will wear out and the more trouble it will give. The <i>Worthington Pump Units</i> used in Manley Auto Washers are of such capacity as to permit operation at slow speeds. We could save money by using smaller pump units and speeding them up.		SPECIAL HIGH PRESSURE HOSE supplied with Manley Auto Washers. This is a very considerable item. All hose looks alike on the outside but Manley uses a special high pressure hose vulcanized inside as well as outside.	
AIR RELIEF VALVES FOR EACH CYLINDER (Patent applied for). These valves make it impossible for the Manley Auto Washer to become air bound.			

Manley Auto Washers have been endorsed by many of the leading automobile manufacturers.



The Manley Car Washer Handbook is a 48-page book which tells how to wash cars, how to remove grease and road tar, how to clean engines and remove paint; it tells how to know your costs and your profits on car washing, and shows the various merchandising helps which owners of Manley Auto Washers can use to build a big, profitable car-washing business.

A copy is yours for the asking—Write to

MANLEY MFG. CO., YORK, PA., U.S.A.

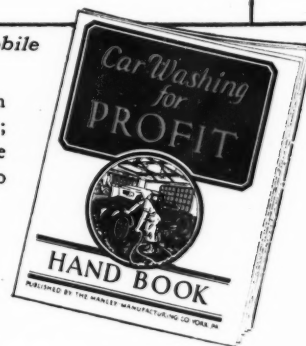
Manufacturers of a complete line of Garage Equipment, including—

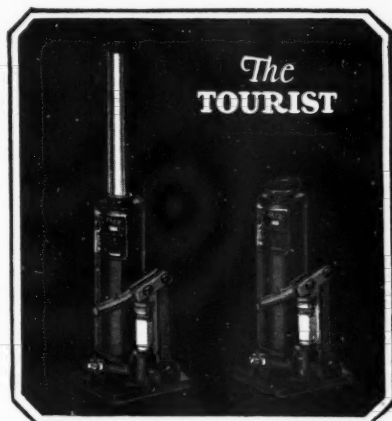
Auto Washers
Hydraulic Jacks
Hydraulic Presses
Auto Elevators

Screw Presses
Service Runways
Engine Stands
Air and Water Stations

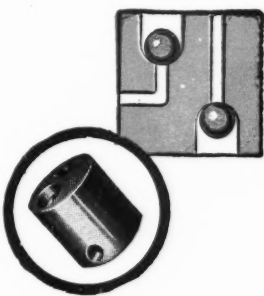
Wrecking Cranes
Tire Changers
Towing Trucks,
Tire Inspectors

Tow Hitches
Brake Lining Machines
Ford Chain Hoists
Tow Hitches





The "Tourist" is the popular price 1½ ton model, for average cars, from Ford to Dodge and Essex. A sturdy, compact jack, 8½" low, 14½" extended. Weighs only 7¼ lbs. Has 34", 2-piece handle.



TWIN-CHEK Valve Unit automatically controls the hydraulic oil power. Located below the pump (outside the jack) easily accessible. Patented.

The complete Blackhawk line includes Hydraulic Oil-Power Jacks for cars, trucks, busses and industrial uses—lifting capacities up to 75 tons.



Almost Effortless Ease
The gentle handle pressure required—the extraordinary ease of placing and handling under difficult axles—make Blackhawk Jacks the last word in Easy Jacking.

"Mean" Axles Mean Sales

LOW-SLUNG, balloon-tired cars help dealers sell Blackhawk Jacks—Hydraulic Oil-Power. No owner of such a car can resist the amazing ease and power of a Blackhawk, once he has tried it or seen it used.

The Blackhawk Hi-Way (B.7.5) in the photo above is an all-car model of 2-ton rating. It slides under the lowest front axle, and gives ample lift for any rear end. With double telescoping feature and hand-adjustable extension, it lifts from 7¾" collapsed, to 18" full height. The 34", 2-piece bayonet-lock handle holds and slides the jack erect under the least accessible axle. Any stroke, short or long, lifts the load with unbelievable ease. No pumping is required to lower. Turn the release valve with the handle. Car comes down quickly and safely at any speed desired.

Thousands of jack-wise motorists hail the Blackhawk as the jack they've been waiting for. Ask your jobber's salesman how to get our Demonstrator Display—FREE. It makes easy sales still easier.

BLACKHAWK MANUFACTURING COMPANY
Dept. M, Milwaukee, Wis.

BLACKHAWK JACKS HYDRAULIC OIL-POWER

*All Blackhawk Jacks are tested at factory
far beyond rated capacity*

It Is Not What You HAVE But What You DO With It!

South America has larger water falls than Niagara. But harnessed Niagara works for homes and industries. Acres of buildings, miles of machinery and even mountains of money can give an automobile factory impressive SIZE but still not give the public the BEST car. It all depends upon the USE made of them. Measured by its physical properties and financial success, Auburn today is one of the "big" automobile companies. Just because Auburn has acquired control of several important parts companies, and in other ways strengthened its position, Auburn will not advertise that Auburn is NOT an assembled car. The fact is that EVERY automobile is more or less "assembled". HOW much it is assembled is immaterial. Important is, how GOOD a car is it for the money? Auburn will make its own parts when it means a better finished product. Auburn will continue to buy from parts-specialists when THAT is better business. Auburn pledges the public to USE its increased SIZE to continue to lead in the economical manufacture of BETTER motor cars.

E. L. Cord
President
Auburn Automobile Co.

YOUR NEXT CAR
AUBURN
POWERED BY LYCOMING

6-66 Roadster \$1095; 6-66 Sport Sedan \$1195; 6-66 Cabriolet \$1295; 6-66 Sedan \$1295; 8-77 Roadster \$1395; 8-77 Sport Sedan \$1495; 8-77 Cabriolet \$1595; 8-77 Sedan \$1695; 8-88 Roadster \$1995; 8-88 Sport Sedan \$2095; 8-88 Cabriolet \$2095; 8-88 Sedan \$2195; 8-88 7-Passenger Sedan \$2595. Freight, Tax and Equipment Extra.

AUBURN AUTOMOBILE COMPANY, AUBURN, INDIANA

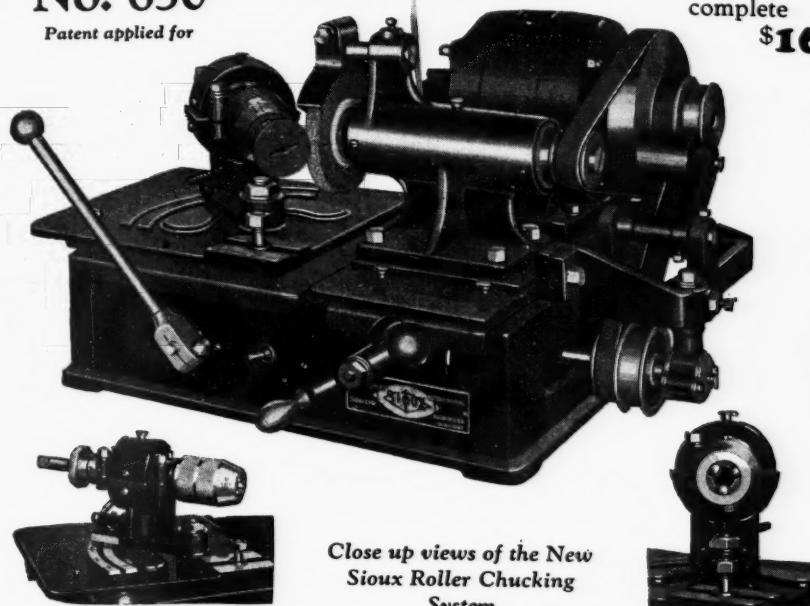
VALVE FACE GRINDING MACHINE

with the NEW
**Sioux Roller
Chucking System**

No. 650

Patent applied for

Net price
complete
\$160



Close up views of the New
Sioux Roller Chucking
System

Your Jobber
Sells It.

A Source of Extra Profits. With this modern Sioux speed tool, you can do all valve work so much easier, quicker and better that you can make an extra margin of profit on every job, especially with prevailing flat rate charges. You can also reface valves for other shops at a good profit.

Its roller chucking system is a Sioux achievement and can be had only in Sioux Valve Face Grinding Machines. It insures simplicity and accuracy. *Guaranteed within .001.* Three rollers with a long firm gripping surface hold the valve stem at the best part, just above the worn surface. When the chuck is tightened, these rollers automatically draw the valve stem back against the aligner, thus assuring perfect alignment. Capacity [on No. 650 machine] 5-16 to 41-64 inch diameter, inclusive.

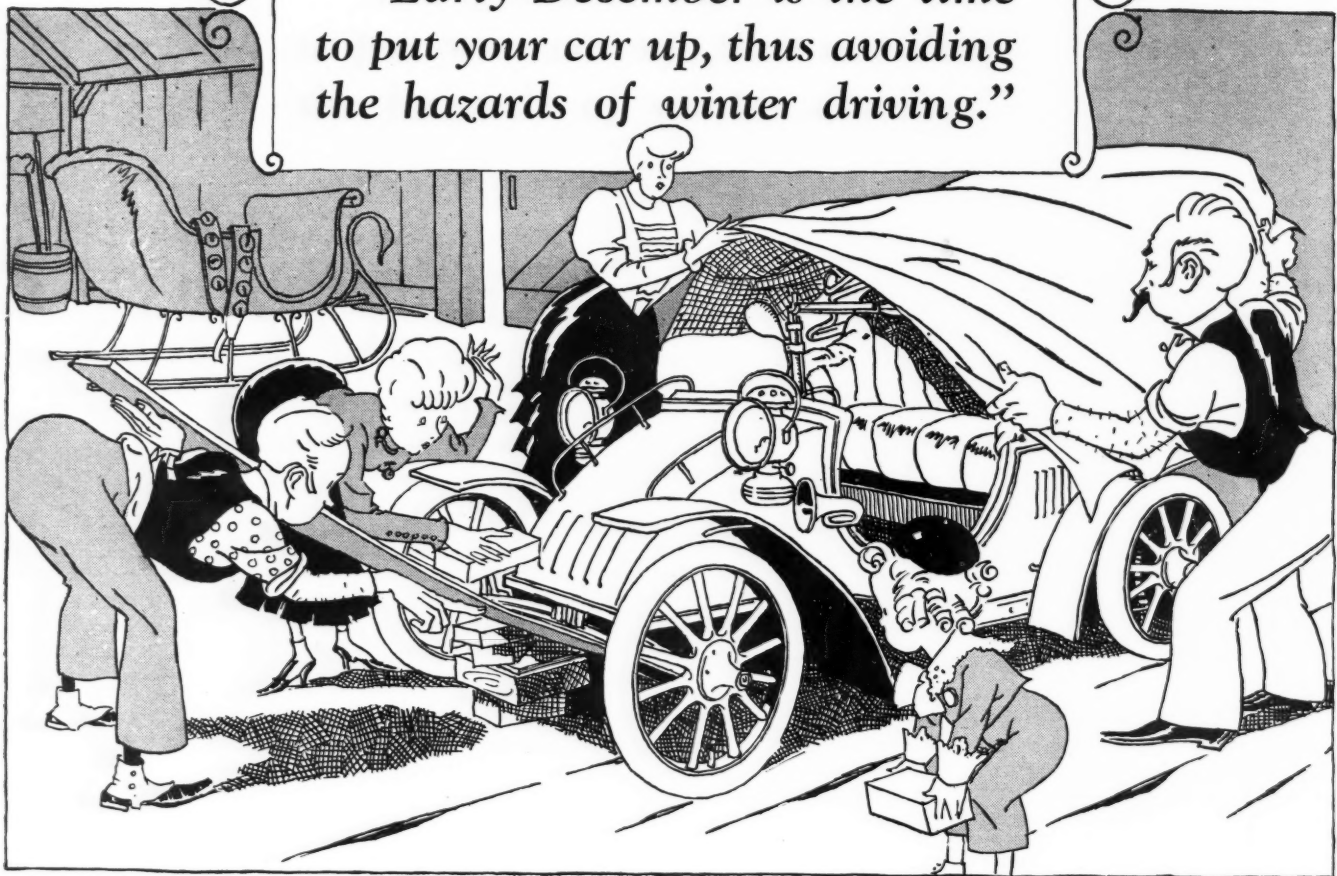
ALBERTSON & CO., . . . SIOUX CITY, IOWA, U.S.A.

SIOUX

Trade Mark Reg. U.S. Patent Office

(HINTS TO MOTORISTS, 1903)

"Early December is the time to put your car up, thus avoiding the hazards of winter driving."



TODAY, putting the car "up for the winter" is as much of a chestnut as hand-cranking—but icy roads still give wheels a tough battle.

Slippery stretches; sudden skids that slap the spokes against curb or frozen rut. These are still wintry risks—except for the drivers who are wise enough to ride on Budd-Michelins.

Wood splinters—steel can't! So Budd-

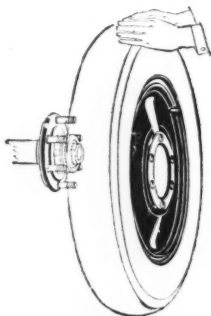
Michelin Wheels stand the pounding. When one does bend—and the blow it takes to do it would smash a wooden wheel!—it isn't necessary to call the tow car. There is the fifth Budd-Michelin to roll home on, and it only costs \$3 to have the bent wheel straightened out again.

This extra measure of winter safety is a timely point to stress. It is helping the men who sell Budd-Michelin equipped cars.

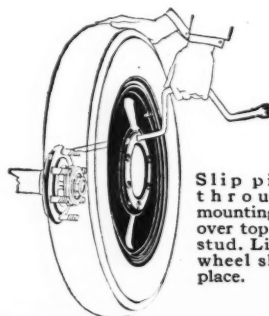
BUDD

WHEEL COMPANY... Detroit

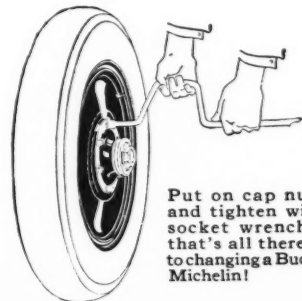
Budd Service Stations in all principal cities—parts and service for wheels of every type.



To put on a Budd-Michelin Wheel, set brakes and place wheel in position before the mounting studs.



Slip pilot bar through top mounting hole and over top mounting stud. Lift up and wheel slides into place.



Put on cap nuts and tighten with socket wrench—that's all there is to changing a Budd-Michelin!



Buy of Breeze

Breeze buys Mayo!

Lock, Stock and Barrel

The entire Mayo Line
of Shop Equipment
will be manufactured,
merchandised and sold
under the

"Breeze Mark"

Mayo 3-Ton Wrecking
Crane

Mayo Ford Carry-
ing and Lifting
Hooks

Mayo No. 4 Press
Puller

Mayo Ford Axle Gear
Remover

Mayo No. 1 Gear
Puller

Mayo No. 1-A Gear
Puller

Mayo No. 2 Gear
Puller

Mayo No. 2-A Gear
Puller

Mayo No. 3 Heavy
Duty Gear

Mayo Timing Gear
Bolts

Mayo No. 3-A Gear
Puller

Breeze Corporations, Inc., has lately acquired through outright purchase, the business, patents and goodwill of the Mayo Equipment Co., whose products were formerly distributed by David Lupton's Sons Co.

This well known line of garage equipment will, hereafter be nationally advertised and sold under the "Breeze Mark"! There will be a specially trained Breeze Service Engineer in practically every territory.

See your favorite jobber or
write us direct

Breeze Corporations
Incorporated

24 So. 6th St. Newark, N. J.

Mayo No. 1 Press At-
tachment

Mayo Ford Spring
Perch Puller

Mayo 4-in-1 Wheel
Puller

Mayo Fordson Tractor
Wheel Puller

Mayo 40-Ton Hand
Press

Mayo Centering and
Straightening
Attachment

Mayo 35-Ton Hydraul-
ic Press

Mayo Passenger Car
and Bus Tow
Pole

Mayo Rear Axle Stand

Mayo Piston Aligner

Mayo Arbor Sets

Mayo Garage Jack

Mayo Tire Changer

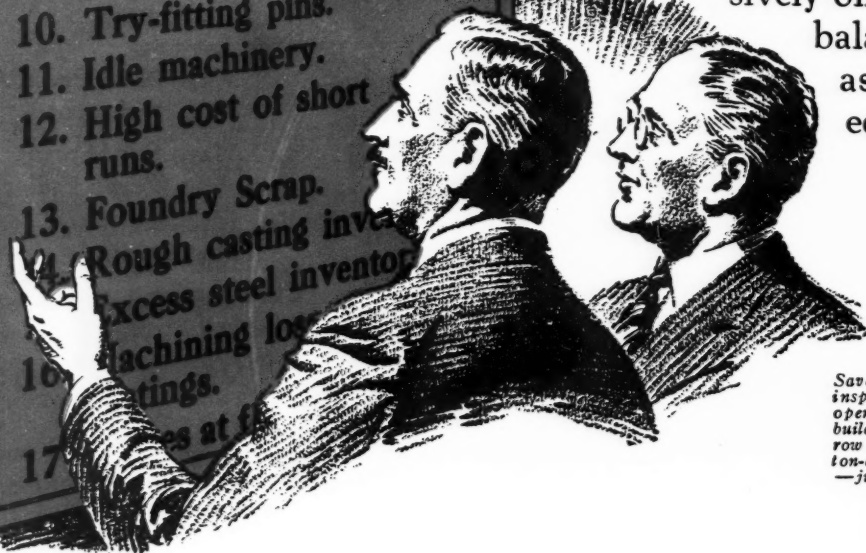
Arrow Head Saves Your Competitors These Costs

Cost estimate when motor maker produces own pistons and pins for equipment and replacement.

1. Piston overstocks.
2. Pin overstocks.
3. Piston re-runs.
4. Pin re-runs.
5. Spoilage on piston runs.
6. Spoilage on pin runs.
7. Inspection on pistons.
8. Inspection on pins.
9. Reaming and machining pistons for assembly.
10. Try-fitting pins.
11. Idle machinery.
12. High cost of short runs.
13. Foundry Scrap.
14. Rough casting inventory.
15. Excess steel inventory.
16. Machining loss.
17. ... at ...

If you still manufacture your own pistons and pins, consider these items. Other motor makers figure that they cannot afford to make their own pistons and pins any more than they can afford to make their own spark plugs and tires. For Arrow Head, through highly specialized facilities and a vast experience with all motors, has made itself piston and pin headquarters for the motor industry.

You, too, can simplify and save greatly by standardizing exclusively on Arrow Head quality balanced piston-and-pin assemblies — for both equipment and service.



Save 20 machining, inspecting and fitting operations when you build a Motor—use Arrow Head Balanced Piston-and-Pin assemblies—just unwrap and slip into place.



ARROW HEAD STEEL PRODUCTS COMPANY
Buffalo MINNEAPOLIS, MINNESOTA Chicago

Arrow Head

Pistons ♦ Piston Pins ♦ Axle and Drive Shafts

Important to Enterprising Dealers

— Original-Bosch Pyro-Action Spark Plugs offer an opportunity to the dealer who is building his business on superior merchandise which give distinction to his store. Just twice as profitable as ordinary plugs to the dealer, Original-Bosch plugs are even more profitable to your customers. For read how they defy Spark Plug Paralysis — then mail the coupon for complete dealer franchise proposition.

FROM the moment you install a new set of ordinary spark plugs and start your engine, they are attacked by powerful parasites. Carbon, for instance, lodges in the interior crevices of the plug. Like a disease it saps the vitality of the plug until it goes completely dead.

For a while you don't notice anything wrong, because there are no surface symptoms. But as spark plug paralysis progresses, loss of engine power becomes more pronounced. The car loses some of its pep. The motor becomes a little sluggish—lazy on the get-away. It doesn't take hills the way it used to. It doesn't throttle down so nicely.

The Original
Bosch
Pyro-Action
SPARK PLUGS

TRADE MARK  ROBERT BOSCH & CO.



But now Robert Bosch, pioneer spark plug manufacturer has developed a spark plug which retains its firing efficiency as long as you drive your car.

This is due to its PYRO-ACTION, which shields it from spark plug paralysis. To mention one factor contributing to Pyro-Action, the insulator is made from "Steatite", an artificial stone especially developed by Bosch. Practically unbreakable, it will not crack under extreme heat. As a result it absorbs and retains sufficient heat to burn up carbon, excessive oil and liquid fuel as fast as they touch the insulator.

To install a complete set of Original-Bosch Pyro-Action Spark Plugs is an investment—not an expense. For they will give your motor more vitality, save gasoline, make

the engine run smoother, give more power, and do these things not merely for a few thousand miles but for a longer period of time than you have ever known before.

Dealers will find the Original-Bosch Pyro-Action Spark Plug profitable in more ways than one. Mail the coupon for full facts about the Pyro-Action Spark Plug and about the Robert Bosch franchise. Robert Bosch Magneto Co., Inc.

[No connection with any other Company or Firm bearing the name "Bosch"].

Robert Bosch Magneto Co., Inc.
3601-H Queens Boulevard, Long Island City, N. Y.

Please send full facts about Original-Bosch Pyro-Action Spark Plugs and about your dealer franchise for progressive accessory dealers.

Name

Address

Hammer Home the Merits of Your Products and the Advantages of Your Dealer Policy

When a vast percentage of the nation's automotive dealers become sincere students of merchandising—

When they are alert to real profits opportunity—

When they, the good ones, are as vitally interested in representing your line as you are in contracting with them—

It then becomes a matter of establishing a forum thru which get-together negotiations may be conducted.

Approximately 75,000 of the liveliest dealers in the United States (the subscribers to, and studious readers of, *Motor Age* and *Automobile Trade Journal*) represent in excess of 85% of the nation's dealer purchasing power.

Hence your merchandise story—well and forcefully presented in the forthcoming National Shows issues of these two great dealer papers—will carry a long way in the direction of building and strengthening your dealer position.

If you have not already prepared copy for these two important feature issues, may we urge you to do so promptly? There isn't a great deal of time left.

National Automobile Shows Issues

Automobile Trade Journal

To be dated January 1

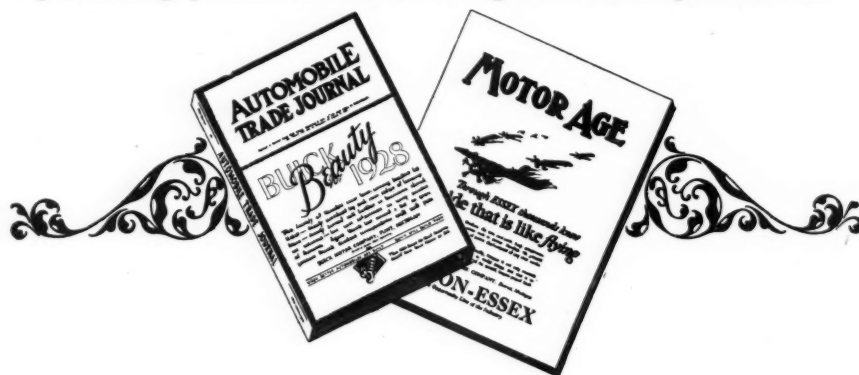
Last forms close Dec. 20

Motor Age

To be dated January 5

Last forms close Dec. 31

Tell your story economically to more than 85% of the dealer purchasing power via these two great dealer publications.



Chilton Class Journal Company

Publishers of Automotive Business Papers

Chestnut and 56th Streets

Philadelphia

Make more money in 1928!

You can make an extra \$1 to \$6 on every armature job if you stop throwing the CORES on the junk pile.

If you throw burned-out armature cores away, your scrap heap must represent a fortune! These cores are worth money. For they are as sound as a dollar. Exchanged for Fredericks Rewinds, they mean a dollar to six dollars *extra* profit on every armature.

More than five hundred armatures are rewound daily in the Fredericks plant at Lock Haven. Each armature requires more than fifty operations. Machinery, some designed and patented by us, speeds the work. As each operation is completed, careful tests eliminate all chance of failure. All employees are skilled armature workers. Just as in new armatures, both ends of a Fredericks Rewind are insulated—Plus value! Write for the full facts today—and ask for the name of the nearest jobber operating a Fredericks Rewind Exchange Service. H. M. FREDERICKS CO., LOCK HAVEN, PA.

- 1 You make as much as \$6 EXTRA.
- 2 Your customer pays no more than usual.
- 3 Your customer gets an armature which is equal to new by every mechanical and electrical test.

FREDERICKS



Rewinds

Mail
the coupon
for the
money-making
information

H. M. FREDERICKS CO.
Lock Haven, Pa.

Gentlemen:

Send full details, prices and name of nearest jobber operating a Fredericks Rewind Exchange Service.

Name.....

Company.....

Street.....

City..... State.....

Did You Enjoy This Copy?

YOU can get one like it every week for only \$3.00 a year—an average cost of a little less than six cents each.

Each and every man in the trade needs MOTOR AGE—needs the

positive help it offers in the solution of daily problems and the valuable ideas it gathers for its readers.

Your competitor reads MOTOR AGE, and you need to read it also if you want to keep up with the leaders of the automotive field.

Here's How MOTOR AGE Will Help You

SERVICING —MOTOR AGE will show you how to make flat rates—How to sell Service—How to make customers permanent—How to organize a workshop—How to handle knotty problems—How to select Machinery—How to test electrical systems—How to make quick repairs—How to route shop work.

HIRING —How to get the right men—How to train them—How to pay them—How to get their co-operation—How to keep them enthusiastic.

BUYING —How to select an accessory stock—How to judge merchandise—How to get a fast turnover—How to avoid dead items.

SELLING —How other men do it—How to keep down overhead—How to advertise—How to make Salesmen produce—How to create a market—How to find prospects—How to make every sale pay—How to avoid losses—How to write letters that build business.

AND THEN . . .

Whatever else you need to know to make your business run smoothly MOTOR AGE will tell you if you only ask—All personal inquiries receive personal attention from our editors. Every subscriber is encouraged to come to us with his problems, whether mechanical, legal, architectural or financial. Try us, and we will give you "Service you will like."

THE COUPON is here for your convenience. If you are already a subscriber, pass it on to some friend in the trade who is not. When he starts getting MOTOR AGE he'll appreciate the favor.

MOTOR AGE
Chestnut and 56th Streets
Philadelphia, Pa.

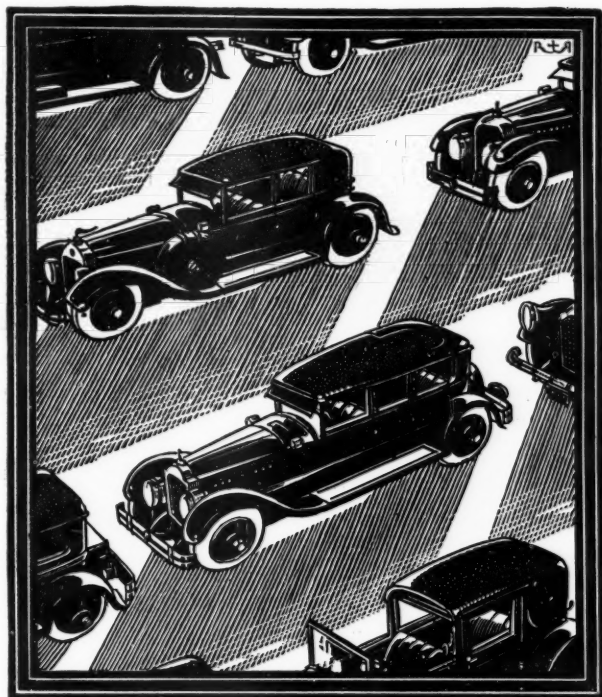
IMPORTANT—MOTOR AGE is published exclusively for the trade. Subscriptions are accepted only from those actively engaged in our field—so please don't forget to include your business card or letter head with this order.

Gentlemen: Enclosed find \$3.00 to pay for a year's subscription to MOTOR AGE, including all special issues published during the life of my subscription.

Name.....
Street and Number.....
City.....State.....
Firm Name.....

NOTE: If you are already subscribing to MOTOR AGE, please hand this coupon to a dealer who is not. He'll become a better competitor from reading MOTOR AGE.

9 Cars in 4 Cities in 1 Day



"I CONSIDER THE TELEPHONE," says this automobile man, "the most valuable and most economical sales asset I have."

Almost any business house has many kinds of work that the long distance lines can do. Buying or selling in a distant city without leaving one's office. Making important appointments. Getting or giving rush information, specifications or prices. All business details can be discussed by telephone, just

A NEW BRITAIN, Connecticut, car dealer is said to sell more automobiles per capita, of a certain high-priced make, than any other subdealer in the world. In clearing his floor of trade-ins, he uses Long Distance almost exclusively. Not long ago he made ten calls in one day to dealers in other cities. These calls sold two cars in Boston. Two in Worcester. Three in New York. Two in Philadelphia. Cash transactions, \$17,000—telephone charges, \$19.50!

as in a personal interview. And with heavy savings in time and traveling expense.

What distant person or firm would it be an advantage to talk with, now? You'll be surprised how little it will cost. . . . Number, please?

BELL LONG DISTANCE SERVICE



Confidence and Respect

Above and beyond all other considerations is the fact that the combined trade circulations of *Automobile Trade Journal* and *Motor Age*, approximately 75,000 paid, reach and cover in excess of 85% of the automotive dealer purchasing power in the United States.*

These two well-edited publications are not only subscribed for and paid for, but command the confidence and respect of the consequential components of our vast net work of automotive dealers from the Atlantic to the Pacific, and from Canada to Mexico.

Therefore if you want new retail outlets, and if you wish to keep present retailers favorably impressed concerning the profits advantage of your product, an adequate use of *Automobile Trade Journal* and *Motor Age* will prove most effective—and pleasingly low in cost.

Chilton Class Journal Company

PHILADELPHIA

Publishers of Automotive Business Papers

AUTOMOTIVE INDUSTRIES
AUTOMOBILE TRADE JOURNAL
MOTOR AGE
AUTOMOTIVE INDUSTRIAL RED BOOK

MOTOR WORLD WHOLESALE
CHILTON CATALOG & DIRECTORY
COMMERCIAL CAR JOURNAL
OPERATION & MAINTENANCE

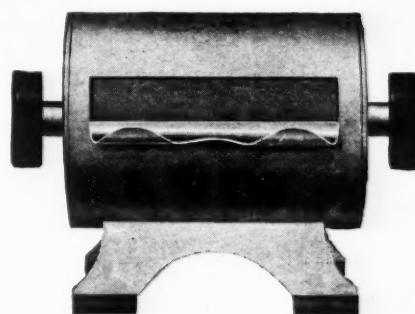
*This fact is *proved*. A copy of the proof will be sent if you request it.

Isn't This Convenient?



Car Type

Patent Pending



Desk Type



HUMIDOR

HAVE you ever tried to get a cigarette out of your pocket while driving? The package usually isn't in the pocket you thought it was in . . . you fumble through several . . . then, when you've finally got it, you must use *both* hands to extract the cigarette from the package. This is not only inconvenient, but *unsafe*. Imagine, then, a dispenser with a built-in humidor, fastened right on the steering column. A flip of the knob, and there's your cigarette . . . fresh and smokable . . . handed to you on a little tray. That's DISPENSADOR . . . the new automobile *necessity* that your customers will be glad to know about . . . and *buy*. There's a model for the desk or table, too.

Order from your jobber or write us today

DISPENSADOR is supplied standard in Tuscon Bronze. May also be had in Chinese Red, Apple Green, French Blue, Roman Gold and Battleship Grey. The retail price is \$3.00 for the car type, and \$2.50 for the desk type—and standard Keystone discounts apply.

THE NORLIPP COMPANY
568 W. Congress St. Chicago

KEYSTONE
DISPENSADOR
FOR CIGARETTES

Manufacturers of Keystone Self-Locking Radiator Caps

KESTER SOLDER

for radiator and cooling system repairs

Saves

On every soldering job, particularly radiator repairs, Kester Solder saves time. With Kester the more complicated the job the more noticeable the saving.

The fine hollow wire solder carrying scientific flux inside itself is ready for use—requires only heat. One, five, ten and twenty pound spools. The larger the spool the greater the saving.

Handled by Jobbers Everywhere
CHICAGO SOLDER CO.
 4203 Wrightwood Ave.
 CHICAGO U. S. A.



Compressors that Pay a Profit

Model B

At right. A popular single-stage outfit, complete less power. Suitable for use with gas engine or line shaft. Many sizes.

Model H

Below. A complete motor driven unit, available in several sizes. Especially adapted to paint spraying.

Prices as low as

\$140

for complete units



YOUR auto laundry, painting department, even your "free air" outlets are all intended to earn a profit, now or later. Make sure, therefore, that they are powered by Quincy Compressors.

Quincy engineer-built units pay dividends by supplying uniform, dry, clean air when and where you need it; by delivering economical, trouble-free service on a lifetime basis. Because they help you turn out better and quicker jobs, they build your reputation for the future.

The Quincy Catalog, containing specifications of all models, will prove helpful to you when you plan the installation or replacement of any compressor equipment. Write for a copy today.

QUINCY COMPRESSOR CO.

219 Maine Street



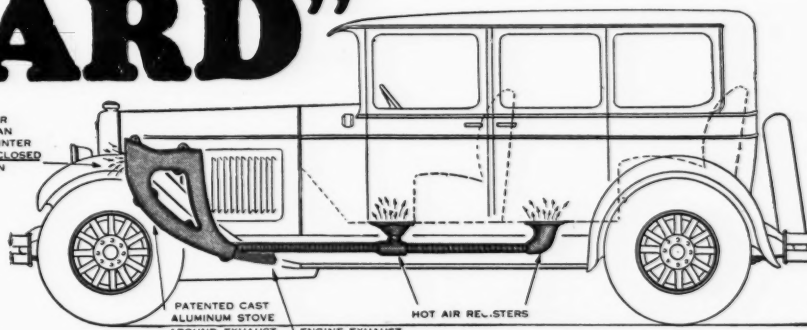
Quincy, Ill.

K585

"HOWARD"

**SAFETY
FIRST**

COLD AIR
FROM FAN
WITH WINTER
FRONT CLOSED
OR OPEN



FRESH AIR AUTO HEATER

A Howard Heater Installed Means a Satisfied Customer

Individually Designed and Custom Built for

Rolls-Royce
Lincoln
Cadillac
LaSalle
Stutz

Pierce-Arrow
Marmon 6
Hupmobile 6
Hupmobile 8
Dodge 4

Dodge 6
Packard 6
Packard 8
Chrysler 80
Chrysler 72

Nash Advance
Auburn 8-88
Buick Master
Buick Standard
Reo-Flying Cloud
Jordan

A real Quality Heater of Cast Aluminum. Fits around the hottest spot of a joint free section of exhaust pipe. Absolutely fool proof. Can't get out of order. No Noise or Smoke. Easy to Install.

HOWARD FOUNDRY

Pattern Makers, Founders, Machinists

Automotive Division

2700 FULTON ST.

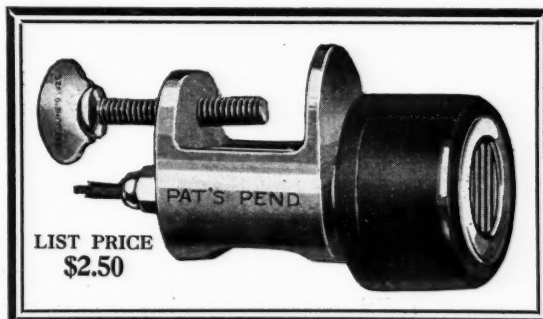
CHICAGO, ILLINOIS

**WORKS
WITH
WINTER
FRONT
CLOSED
AS WELL AS
OPEN**

100% SAFE

Take Off Cap and Pass It Around the Car
THE MODERN, FRIENDLY WAY TO LIGHT UP

**ALL-
STATES
ELECTRIC**



**CIGAR
LIGHTER**

NO WIRE TO PULL—RED HOT INSTANTLY

*Attractive Counter Display Helps
Dealers Make Sales*

THE ALL-STATES ELECTRIC CIGAR LIGHTER comes packed in cartons of ten. The cover is an attractive counter display that sells the ALL-STATES on sight. Anyone can install in five minutes. Just clamp on bottom of dash board. No holes to drill.

*The Aristocrat of Them All—In Greatest
Demand by Experienced Motorists*

Eliminates the pulling of wire and also a switch or button of any kind. Just press the lighter cap and it becomes red-hot instantly. Remove it from clamp socket and pass it around the car—the new, courteous, friendly way to light up in the car. Always works—Never fails. Write today for complete information.

ALL-STATES ELECTRIC MFG. COMPANY
1639 N. CICERO AVE. CHICAGO, ILLINOIS

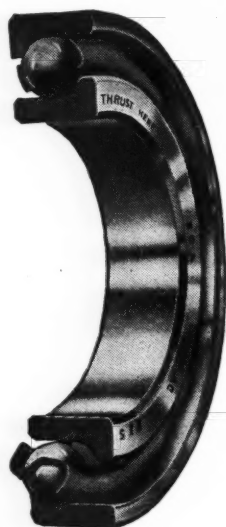
All-
States
Electric
Mfg. Co.
1639 N.
Cicero Ave.
Chicago, Ill.

Please send me
further information,
prices and discounts on
your cigar lighter.

Name.....

Address.....

City.....State.....



Strength Where It Counts

The real stamina of a car is not seen from the outside—it is hidden away in the bearings where the heaviest loads are carried. B. C. A. Bearings provide strength at the points where it is most needed. Their accuracy is insurance on the life of the car.

B. C. A. Bearings are the product of "Bearings Headquarters."

Bearings Company Of America
Plant Lancaster, Penna.
Detroit Michigan Office 1012 Ford Building.

MoToTRUNK



An Extra Profit in New Car Sales!

Show your new car buyer the MoToTrunk. MoToTrunk is designed to accentuate the stream line effect, adding distinction to the appearance of the car. It is not an accessory, but an everyday utility.

MoToTrunk is finished in lacquer to match most body colors, or in lustrous black enamel. Leather straps and handles are optional. It is built of steel. Crown cover is mounted on a full-length piano hinge. Weatherstrips make it water and dust tight. It cannot warp, sweat or mildew.

MoToTrunk for Buick 1928!

A new trunk built to Buick dimensions, fits all models, including the popular sport models.

MOTOR TRUNK CO.

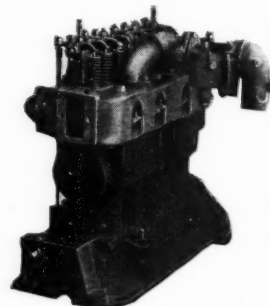
465 YORK ST.

DETROIT

Robert M. Roof's LATEST CREATION

MORE
POWER

GREATER
SPEED



For Any Stock CHEVROLET Car

Seventy miles an hour guaranteed, more power on hills, instant pick-up in traffic with the R & R Giant Super-Power Cylinder Head. Easily installed in one-half hour by unskilled labor. No vibration. No heating. No detonation. Power head complete with 1 1/4 inch Stromberg carburetor, \$89.50 f.o.b. Anderson. For dealer franchise and terms wire or write.

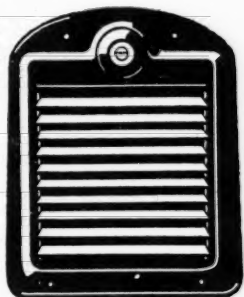
Cable Address, RCO

R & R Mfg. Co.

Anderson, Ind.

The R and R GIANT

You're going
to have
calls
for



Pines Automatic WINTERFRONT from now on!

THE big Pines Winterfront national advertising campaign is under way. We're telling millions to come to your store and buy the *Only Automatic Radiator Shutter* on the market. If you haven't made arrangements to take advantage of this demand—*do it now!* Winterfront business hits like a bolt out of the sky. Be prepared.

**PINES
WINTERFRONT**

Distributors Everywhere

PINES WINTERFRONT COMPANY
422 North Sacramento Blvd., Chicago



The busiest dealers with-
in the automotive indus-
try are the readers of
Motor Age.

It keeps them up on their
toes—alert, resourceful and
in position to recognize suc-
cess when it comes their way.

More than 25 USES

on Every Car

TENAX for Heat

Use Tenax Asbestos Gaskets where there is heat—no matter how intense. They stand up and are unequalled in quality.

TANPAC for Oil

Wherever oil and grease are encountered and places where THERE IS NO HEAT, play safe and use Tanpac Fibre Gaskets. They withstand heavy pressure, are light in weight—**"TOUGHEST OF THE TOUGH."**

Dealers and Garagemen

can obtain Advance products for every automotive purpose. They are reliable and insure good work. Made by gasket manufacturers in a fully equipped gasket shop, producing fibrous materials only.

*Rapid turnover and quick profits for you.
Order from your jobber today.*

ADVANCE
PACKING and SUPPLY CO.

808 W. Washington Blvd.

Chicago, Ill.

5 Oversizes

for every standard

SIZE and TYPE of Piston Pin always in stock



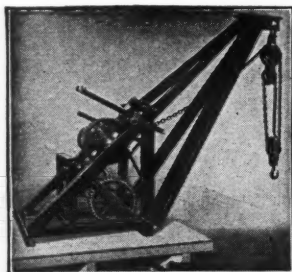
Within one hour after the order is received, your Thompson Piston Pins are on their way to you. And remember, for every standard size and type of Piston Pin we have five oversizes—always in stock. No delay.

Ask for your free copy of our 140 page catalog—so you can tell your jobber exactly what you want. Our cut cost ordering code makes it possible for your jobber to order by telegraph.

All our Piston Pins are made with a highly lapped finish.

THOMPSON PISTON PINS DEFLANCE, OHIO

Why Pay More For Less?



Average Good
Crane \$110

"A.C.E." 3-ton
Better Crane 78

YOU SAVE . \$ 32

Wise buyers buy "ACE" Cranes and apply the saving to the purchase of some other needed equipment. How About You?

Write for catalog of Grease-Racks, Portable Inclines, Steel Horses, Tire Racks, etc. Jobbers! It will pay you to write for the "A. C. E." Proposition.

AIR COMPRESSOR & EQUIPMENT CO.

288 E. Genesee St., Buffalo, N. Y.

DOVER

SAVAL
Liquid Oil Measures

Quality made of heavy steel, copper plated, highly polished and lacquered.

The universally known thumb operated valve control is simple, positive and fool-proof. Spout flexibility means speed, service and satisfaction. A simple, oil straining device assures clean, perfect oil—ALWAYS.

DOVER MEASURES

with valve control and oil straining device, are made in 1-2-4 quart capacities.

Patented
April 2,
1918



Manufactured by
DOVER STAMPING & MFG. CO.
CAMBRIDGE A, MASS.

SIMPLEX Piston Rings

give you six outstanding advantages. Stop oil pumping, stop piston slap, stop compression loss, force cylinder lubrication, reduce wear and increase power. Two Simplex Piston Rings to each cylinder, installed by the Simplex Method, recondition worn motors without resizing cylinders and installing new pistons.

Send for the Simplex Method of reconditioning motors without cylinder machinery, and make more money.

**The Simplex Piston Ring Co.
of America, Inc.**

1971 East 66th St., Cleveland, Ohio

Genuine CANTON 2-TON CRANE

Easy Payment Plan

Biggest Value

\$125



When you buy a 2-ton CANTON—you buy what WILL LAST A LIFETIME. This is TRUE ECONOMY. Castings are semi-steel; BBB hand forged chain, Hyatt Bearings. Used by Ford, Dodge, Packard. Two designs, rated and paid—\$125. Safety Friction Load Brake \$50 additional. Can easily be installed on old cranes. Meets all State Safety Codes. Catalog. Ask about our Easy Payment Plan.

CANTON FOUNDRY & MACHINE CO.
CANTON, OHIO

SPLITDORF SPARK PLUGS

A type for every car

50c

Made by the oldest ignition manufacturer for dealers who want the best to sell for the lowest price at the largest profit.

4 Plugs for the Ford Engine \$1.75

SPLITDORF ELECTRICAL COMPANY

392 High Street Newark, N. J.

Subsidiary of
Splitdorf-Bethlehem Electrical Company

G YPSY AUTO LIGHT

Both products with easy sales—one for use by owners, one by shopmen. A good combination for profits. Write

GLADE MANUFACTURING CO.

209 S. State St.

Chicago

GLADE SHOP LIGHT

Lepel Will improve the performance of any car—yes, any. Write for details.

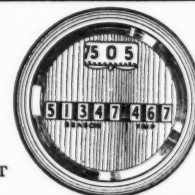
LEPEL IGNITION CORP., 117 W. 63rd St., New York

SHIP US YOUR
**STEWART—A.C.—NORTH EAST
SPEEDOMETERS FOR REPAIR**

Catalogue of Parts and Repair Charges Sent upon request, WRITE!

SPEEDOMETER REPAIR CO.

1919-21 Chateau St., N. S., Pittsburgh, Pa.
WE ARE NO FURTHER THAN YOUR NEAREST MAIL BOX



MONOGRAM Radiator Caps

GEAR SHIFT BALLS, ORNAMENTS

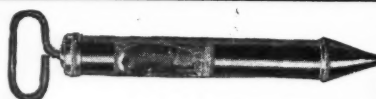
THE KINGSLEY-MILLER COMPANY · CHICAGO

BRUNNER
AIR COMPRESSORS
FREE

Write for the Book
"AIR PROFITS"

describing many new uses for compressed air. Shows how to make an air compressor earn greater profits.

BRUNNER MFG. CO.
UTICA NEW YORK



ROSE
Grease Gun

Operates with or without the Rose Grease Bucket—Handiest lubricating outfit you ever saw. Ask your jobber or write us for details of this and other Rose Grease Equipment—

FRANK ROSE MFG. CO.

Hastings, Nebr.



EATON SPRINGS
FOR REPLACEMENT
STANDARD EQUIPMENT ON AMERICA'S LEADING CARS AND TRUCKS
THE EATON BUMPER & SPRING SERVICE CO., Cleveland, Ohio

Simplicity

REG. U. S. PAT. OFF.

REBORER AND GRINDER

A big money-maker in any automobile repair shop or garage. Ask for free demonstration in your own shop.

SIMPLICITY MANUFACTURING COMPANY

Port Washington

Wisconsin



**Bellevue
SPRING
CONTROL**

Actually Controls
the Car Spring

Write for
Catalogue

The Bellevue Mfg. Co., Bellevue, O.

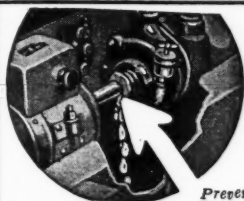


**Portable Electric
DRILLS**

GRINDERS—POLISHERS

Ask for Catalog 105

The United States Electric Tool Co. Cincinnati, Ohio, U. S. A.
Oldest Builders of Electric Drills and Grinders in the World



**Stops Pump-shaft Leaks and
Saves the Winter Solution**

CONNEAUT PLASTIC METALLIC PACK-
ING will keep the water-pump tight no matter
what winter solution is used.

All sizes in one can. Stocked with your Jobber

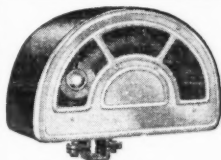
1 lb. can \$1.75 per lb.

5 lb. can \$1.60 per lb.

THE CONNEAUT PACKING CO.

Conneaut, Ohio

Prevent
This!



The ilerlite
The Waving Stop-light
Fits Any Car

5103 Lakeside Ave.

The Iler Electrical Mfg. Co.
Cleveland, Ohio



FENDER CHART FREE!

Write for it today

Repair Shops equipped with the Fostoria Fender Wall
Chart can get immediate fender service from the nearby
Fostoria Distributor. No waiting. More profit. Pleased
customers. The Wall Chart is Free. Write for it today.
Dept. A-12.

FOSTORIA PRESSED STEEL CO.
Fostoria Ohio

FOSTORIA FENDERS

Two Hones in One

HALL HONE \$39.75
at your
Jobber's

Solid Pressure — Spring Pressure

VITALIC

Fan Belts, Radiator Hose, Air Hose, Universal Joint
Discs

"Tougher than Elephant Hide"

Sold through the Jobber Only.

Continental Rubber Works,

Erie, Pa.

WE MAKE

RADIATOR CORE MACHINERY

Write for Catalog and Prices

RADIATOR ENGINEERING CO.

FACTORIES BLDG.

TOLEDO, OHIO

WEL-EVER

"OIL CONTROL" PISTON RINGS

The Motor Necessity That Has Made Good
Backed by Seven Years' Satisfactory Service

THE WEL-EVER PISTON RING CO., TOLEDO, OHIO

Sold most everywhere. If your dealer cannot supply you write us.

Weidenhoff Shop
Equipment
for Battery and
Electrical Service
4355 Roosevelt Road Chicago, Illinois

Bigler
MOTOR BETTER BUILT TRUNKS

Motor Trunks, Racks and Equipment exclusively. All types and styles.
Genuine Duco finish, or bright black. A money-making line. Write.

BIGLER MANUFACTURING CO.

CHIPPEWA FALLS

High St.

WISCONSIN

FAWSCO WRENCHES

New Style

Are the Best

No. 121 Circular Tells

FAWSCO WRENCH CO., 27 Warren St., New York City



"If my Franklin Compressor ever
does wear out, I'll buy another"

Franklin

AIR COMPRESSOR CORPORATION
Norristown, Pennsylvania

CLASSIFIED ADVERTISING RATES

Ten cents a word is the rate for all undis-
played advertisements set solid, regular want
ad style; minimum charge \$1 an insertion.
All capitals, 12c a word; all capitals, leaded,
15c a word. Payable in advance.

CLASSIFIED

\$50.00 REWARD

FOR recovery 1927 Whippet 4-Door Sedan.
Stolen Oct. 11, '27 from Roberts Garage.
Serial No. 96-58864; Motor No. 59533; 5-29
x 4.40 Goodyear Tires; A.C. Oil Filter;
Bumpers. Notify Chief of Police or Roberts
Garage, Keokuk, Iowa.

To locate business opportunities
To sell, rent, exchange or buy
To find men or employment

THE CLASSIFIED DEPARTMENT
WILL HELP YOU



300 Wholesale Distributors Say That

"STANDITALL Radiators offer the greatest advance in radiator design and practice in a decade and are being hailed everywhere by practical radiator men as 'the better radiator.'"

A big eastern jobber (AEA and NSPA member) recently wrote his customers:

"You'll find that this new brand of radiator has selling points which you can grab hold of and talk about—'new stuff'—which pulls radiator selling out of the rut. STANDITALL Radiators are as much better than the ordinary kind as cord tires are better than fabric."

STANDITALL Radiators are all that their name implies—designed and built to "stand it all." Because of unique construction, STANDITALL Radiators function and let the engine function thru all the rigors of severe service.

FREEZE 'EM SOLID AND THEY'LL NEITHER BURST NOR LEAK WHEN THAWED—AND IN HOT WEATHER OR HILL CLIMBING, "BOILING" IS THE LAST THING THEY DO.

Write for details—giving us your jobber's name

J. C. BLACK MANUFACTURING CO.

Factory and Executive Offices
OIL CITY, PA.

Export Office, 116 Broad Street, New York City

Southern States Representative
L. E. SPENCER CO., Nashville, Tenn.

STANDITALL AUTO RADIATOR

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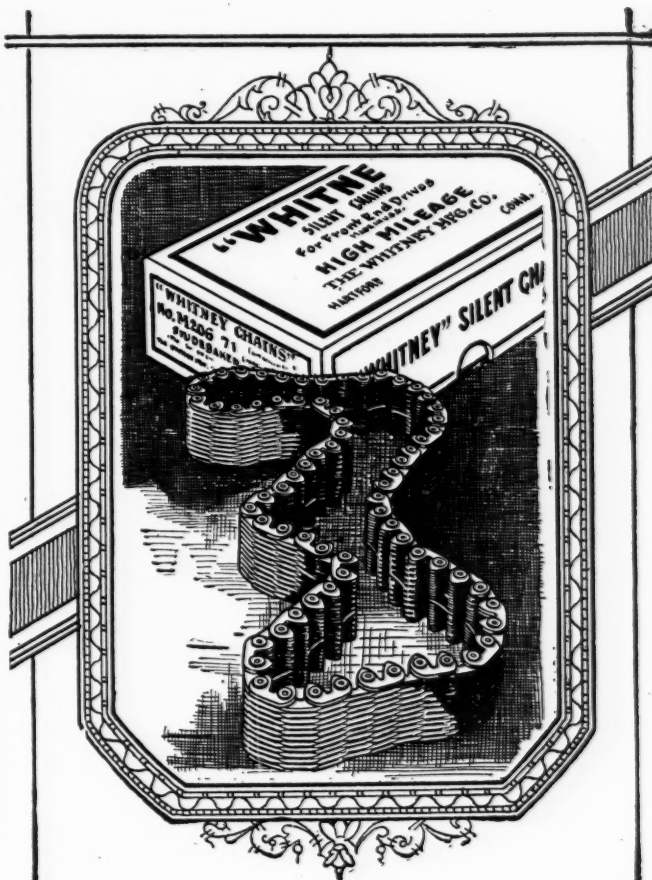
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"—AND CHECK TIMING CHAIN"

Smart garagemen and service managers always include this item on General Inspection Work Cards.

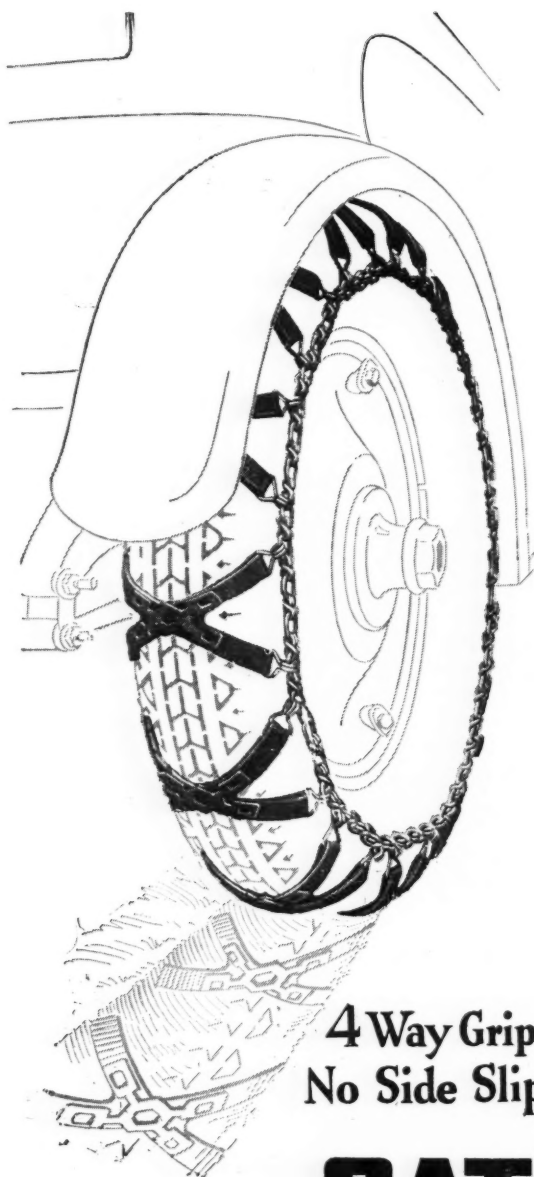
Usually a simple adjustment is all that is necessary. *A badly stretched or noisy chain, however, should be replaced.*

Service men who seek the profitable advantages of customer satisfaction make replacements with

WHITNEY
SILENT  TIMING
CHAINS
Quiet and Permanent
Replacements

THE WHITNEY MFG. CO.
HARTFORD, CONNECTICUT

No Side-Skidding with Rubber Chains



**4 Way Grip
No Side Slip**

THE X-shaped rubber cross-links grip the road in four directions. This stops the side-slip of the car—and every motorist knows it is the side-skidding on slippery roads that's really dangerous.

This greater safety that is provided by the 4-Way-Grip of Gates Rubber Chains is one reason why dealers who sell this chain are getting a bigger volume of chain business than they ever enjoyed before—and it is profitable business.

Gates Rubber Chains not only bring you *extra* sales and *extra* profits but they also give your customer these definite advantages:—

1. **Longer Wear.** Made of tough, re-inforced wear-resisting rubber, they will in most cases out-wear several sets of ordinary chains.
2. **Noiseless.** The rubber cross links are as quiet as the rubber tread of your tire—no banging against fenders or rattling on the pavement.
3. **Protection to Tires.** They do not injure the tires because the wide rubber cross links do not bite into the tread or bruise the tires—they add miles instead of taking them away.
4. **Greater Safety.** The 4-Way Grip on the road stops side-skidding and gives your customer the protection he wants.

4 WAY GRIP
GATES CHAINS



4 Way Grip—No Side Slip

Manufactured by The Gates Rubber Company, Denver, U. S. A.

Between October and March

34,455,798

of these tire chain messages
will work for McKay Dealers



UNITED STATES CHAIN & FORGING COMPANY, PITTSBURGH, PA.
NATIONAL AUTOMOBILE SHOWS—1928, New York City, January 7th-14th, Spaces C-79-80-81. Chicago, Ill., January 28th-Feb. 4th, Spaces 120-121.

AC

PRODUCTS

"Standard of the world"

1927—An AC Year

Nineteen twenty-seven was the biggest year in the history of the AC Spark Plug Company. It was marked by business increases, building and manufacturing expansion and many notable victories in the air and on the track.

Five new buildings were erected to provide additional manufacturing space to meet the demand for AC Products all over the world. Four of these buildings were erected in Flint and one in Paris, France, the latter a modern and complete new factory building.

Six new products were introduced during the year, as follows:

Fuel Pressure Systems	Tachometers
Ammeters	Complete panels
Oil Gauges	for automobiles
Thermo Gauges	and motor boats

These products, together with the increased demand for AC Spark Plugs, Speedometers, Oil Filters, Air Cleaners and Gasoline Strainers made the plant expansions necessary, and, judging from the demand now existing for AC Products, still more expansions will be necessary during the coming year, thus further entrenching the company's position as the largest manufacturers of automobile accessories in the world.

A Few Outstanding AC Victories in 1927

LINDBERGH	New York to Paris
CHAMBERLIN	New York to Germany
BYRD	New York to French Coast
ACOSTA-CHAMBERLIN	Endurance Flying Record
STINSON	National Reliability Air Tour
MAITLAND-HEGENBERGER	California to Honolulu
DE PAOLO	A. A. A. National Automobile Racing Championship
MYERS	New York to Spokane Air Derby
SCHLEE and BROCK	World Tour
WOODBURY	A. A. A. National Dirt Track Championship

Organize to get your share of the big renewal business to be had on AC Spark Plugs and AC Oil Filters

AC-SPHINX
Birmingham
ENGLAND

AC Spark Plug Company, FLINT, Michigan

AC-TITAN
Clichy (Seine)
FRANCE

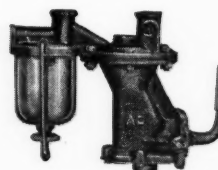
AC
SPARK
PLUGS



AC
SPEEDOMETERS



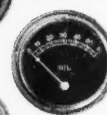
AC
OIL
FILTERS



AC
FUEL
PRESSURE
SYSTEMS



AC
AMMETERS



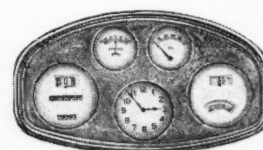
AC
OIL GAUGES



AC
THERMO GAUGES



AC
AIR CLEANERS



AC INSTRUMENT PANELS

Over 200 of the
world's most suc-
cessful manufacturers use one or
more, or all of these AC Products

